CULTURAL LANDSCAPE MANAGEMENT

Guidelines for identifying, assessing and managing cultural landscapes in the Australian Alps national parks

Cultural Heritage Working Group
Australian Alps Liaison Committee

Report prepared by Jane Lennon & Steve Mathews
Jane Lennon and Associates,
Heritage consultants

March 1996
Acknowledgements

This report has been prepared by Jane Lennon and Associates for the Cultural Heritage Working Group of the Australian Alps Liaison Committee. Sue Feary was instrumental in initiating the project, and providing ongoing direction. Other members of the Cultural Heritage Working Group also worked hard to bring it to fruition, attending meetings, reading and commenting on drafts, organising workshops, and sending out questionnaires. Craig Richardson, Liz Avis, Megan Bowden, Alistair Grindbergs, Dennis Matthews, Greg Hayes, Phil Boot and Janet McKay all provided essential input. Evan McDowell organised the Bright workshop.

A number of rangers provided excellent field assistance with site visits and advice, including Brett McNamara and Kim Thomas.

Thanks are due to all the parks staff who found the time amidst heavy schedules to fill in questionnaires, participate in interviews, answer questions, provide information and attend workshops - sometimes many hours drive from home. Participants in the November Dinner Plain field workshops also helped immensely, by providing excellent critical feedback.

Staff in the various head offices were also extremely helpful. In particular, Daniel Catrice, Ray Supple and Chris Smith of the Victorian Department of Conservation and Natural Resources' Historic Places Section were extremely generous with their time and resources, and highly efficient with their service. Geoff Ashley and Dennis Gojak of the New South Wales National Parks and Wildlife Service and Debbie Argue of the ACT's Bureau of Arts and Heritage's Heritage Section were similarly helpful.

Julie Ramsay and the Australian Heritage Commission also provided much appreciated resources and assistance.

Janet McKay and Neville Byrne have both been patient and supportive administrators of the project.

The guidance, information and direction received in all these consultations have been essential in putting together these guidelines. The contents attempt to meet as far as possible the information needs of field and other parks staff, in effectively managing Alps cultural landscapes.
# Contents

Introduction ................................................................. 1

**Part 1: Understanding Cultural Landscapes**

1.1 What is a cultural landscape? ............................... 3
1.2 The relationship between cultural landscapes and the features they contain ......................... 4
1.3 Describing the components of cultural landscapes ................................................................. 5
1.4 The scale of cultural landscapes: determining boundaries .................................................... 7
1.5 Significance of cultural landscapes (i.e., their historical context) ........................................ 7
1.6 Layers of meaning in cultural landscapes ........................................................................... 8
1.7 Nature and culture ................................................................................................................. 8
1.8 Aboriginal cultural landscapes ............................................................................................ 9
1.9 Why conserve cultural landscapes? ..................................................................................... 10

**Part 2: Cultural Landscapes in the Australian Alps National Parks**

2.1 Introduction ............................................................... 12
2.2 Themes .......................................................................... 12
2.3 Themes and Alps cultural landscape types: classification ..................................................... 14
2.4 The institutional framework ................................................................................................ 15

**Part 3: Overview of the Process**

3.1 Assess cultural significance ........................................ 18
   3.1.1 Gather evidence
   3.1.2 Analyse the evidence
   3.1.3 Assess significance
3.2 Develop the conservation policy and strategy ................................................................. 19
   3.2.1 Gather information
   3.2.2 Develop conservation policy
   3.2.3 Develop strategy for conservation works and actions
3.3 Implement the strategy ......................................................................................................... 19

**Part 4: Assessing the significance of cultural landscapes**

4.1 Gathering information ................................................ 22
   4.1.1 Setting the historic context
   4.1.2 Defining cultural landscapes
   4.1.3 Surveying and documenting cultural landscapes
   4.1.4 Researching the history of cultural landscapes
4.2 Analysing cultural landscapes ........................................ 29
4.3 Assessing the significance of cultural landscapes ............................................................. 31
   4.3.1 What is significance?
   4.3.2 Criteria for the assessment of significance
   4.3.3 Values and measures of significance for Alps parks landscapes
   4.3.4 The comparative nature of significance
   4.3.5 The scale or scope of the significance assessment
4.3.6 Significance as the basis for management
4.3.7 Points to note in the assessment of significance
4.3.8 The importance of assessing significance
4.3.9 Statement of significance

Part 5: Preparing landscape conservation policy and strategy

5.1 Conservation treatments for cultural landscapes and their features ........................................... 38
5.2 Conservation policy ........................................................................................................................ 39
    5.2.1 Background to conservation policy: constraints and opportunities
    5.2.2 Developing conservation policy
5.3 Implementation: the conservation management strategy ............................................................ 41
5.4 Preparation of conservation and management plans ................................................................. 43
5.5 Management at the landscape level ............................................................................................. 44
5.6 Management of historic structures in the landscape context ...................................................... 44
5.7 Monitoring landscape changes, treatments, and impacts .......................................................... 44
5.8 Recording of regular management practices in Alps National Parks .......................................... 45
5.9 When to seek assistance ............................................................................................................... 45

Part 6: Management issues of special interest

6.1 Management of exotic vegetation ............................................................................................... 48
6.2 Management of indigenous vegetation ........................................................................................ 53
6.3 Management of animals in cultural landscapes .......................................................................... 58
6.4 Management of visitor impacts ................................................................................................ 62
6.5 Providing access to Alps cultural landscapes ............................................................................ 65
6.6 Determining appropriate levels of visitor facilities .................................................................... 69
6.7 Assessing the interpretive values of Alps cultural landscapes ................................................... 71
6.8 Interpreting Alps cultural landscapes ........................................................................................ 72
6.9 Determining an appropriate level of interpretation facilities ..................................................... 73
6.10 Traditional and continuing use of Alps cultural landscapes .................................................... 75
6.11 Community groups ..................................................................................................................... 77

References ........................................................................................................................................... 81

Useful references for the office ........................................................................................................ 85

Appendix 1: Assessments and significance statements for Currango and Kiandra: ...................... 86

Appendix 2: Examples of conservation policy: Kiandra and Currango......................................... 88

List of flowcharts
Flowchart 1: Overview of the cultural landscape conservation management process .................... 17
Flowchart 2: Researching and assessing the significance of cultural landscapes ......................... 21
Flowchart 3: Development of conservation policy and strategy ..................................................... 42

List of tables
Table 1: Thematic classification for cultural landscape types in the AANP ..................................... 14
Table 2: Legislation relating to cultural landscapes in the Australian Alps National Parks ............ 15
INTRODUCTION

The Cultural Heritage Working Group (CHWG) of the Australian Alps Liaison Committee (AALC) commissioned these guidelines to assist parks staff make decisions about cultural landscape management, when faced with juggling priorities for action, or when faced with conflicting advice. Often in the past, staff have not been in a position to consider conservation options for a range of park components.

This document is intended to be used as a reference guide for managing cultural heritage at various scales in Alps parks landscapes.

Parks staff will get best value from the guidelines by reading them and becoming familiar with the concepts, and by referring to them in the course of everyday duties. They are best kept within easy reach of the work desk, or stored in the tools of the trade' library collection, in the Service vehicle.

The material provided in this guide is not intended to give you 'cook-book' or 'right' answers for any particular landscape - rather, it offers a number of principles, concepts and processes to help you make decisions about managing Alps parks cultural landscapes more effectively.

The booklet is organised in five parts:

Part 1: A discussion of the concept of cultural landscapes

Part 2: A review of cultural landscape types in the Australian Alps National Parks

Part 3: Overview of the processes involved in identification, assessment and management of cultural landscapes

Part 4: Identifying, documenting and assessing cultural landscapes in Alps National Parks

Part 5: Developing management policies and strategies for conserving cultural landscapes in Alps Parks

Part 6: Guidelines relating to specific Alps Parks cultural landscape issues

Parts I and 2 are philosophic and background discussions; Parts 3, 4 and 5 describe steps in the process, and Part 6 offers specific management issue advice.

This booklet should be used in conjunction with Parks Service policy and procedures manuals, Kerr's Conservation plan , and The Illustrated Burra Charter.

The content of these guidelines was developed in response to information received from Parks staff, during four workshops held in the ACT, Victoria and New South Wales in 1995. No less important was the feedback obtained from the detailed questionnaires completed by staff from the three Parks Services. Interviews (face-to-face and phone) were also conducted during the consultation period.

In some cases, cultural landscape policy issues requiring co-ordination amongst the Alps Parks Services have been identified, and recommendations suggested in the text. These are indicated in the text by bolded recommendations.
Part 1

Understanding cultural landscapes
1.1 What is a cultural landscape?

There has been much discussion about what constitutes a 'cultural landscape'. This section reviews some of the most common uses of the term, and proposes a working definition of 'cultural landscape' for the Alps National Parks.

Definitions:

In the broadest sense, the term 'cultural landscape' is applied to those parts of the land surface which have been significantly modified by human activity, to distinguish them from natural or wilderness landscapes, which have little or no apparent evidence of human intervention. However, this distinction is somewhat ambiguous, as there is not as yet a common understanding of what 'significantly modified' means, and neither is there general agreement about what is or was 'natural' (Blair and Truscott, 1989:3).

Another definition is that cultural landscapes are rural and urban settings (spaces) that people have settled or altered through time. They include cultural and natural elements of the ordinary, familiar, everyday landscape.

The cultural landscape is a mosaic consisting of

* natural features and elements;
* physical components from a number of historic periods resulting from human activity and modification to the natural features, and
* patterns created in the landscape over time; these are layers in or on the landscape (Taylor, 1989:16-17).

Another approach to the definition of cultural landscapes can be seen in the Australian Heritage Commission's (AHC) Register of the National Estate. This is a list of places of cultural significance, including cultural landscapes as well as individual sites, buildings and structures. Cultural landscapes have been grouped into several types, which can be read as partial definitions. These are:

* associative landscapes, including landscapes of religious meaning (i.e. landscapes whose meaning and significance derives from associations with cultural beliefs or non-material traditions, such as art, literature, folklore, religion);
* landscapes which reflect cultural processes which are still active;
* places related to a single historic activity or period;
* places which represent layers of history;
* places which demonstrate the dependence of historic activities on natural systems;
* linear landscapes;
* thematically linked places within a landscape, and
* places representing multiple themes or multiple values (Read, Ramsay and Blair, 1994:14).
The AHC's eight types (above) fit into the three landscape categories of designed, evolved and associative landscapes, used by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) as the basis for assessing World Heritage values of cultural landscapes.

- 'Designed' refers to landscapes that have been deliberately created according to a vision or plan, such as public gardens.
- 'Evolved' refers to landscapes that have developed organically in the absence of a plan, as in the case of landscapes formed by the unplanned pursuit of an economic activity, such as farming, or mining.
- 'Associative' refers to meanings attached to the landscape through non-material historical, social and cultural processes.

Most landscapes in Australia have strong cultural elements because of the impact of Aboriginal occupation and management, as well as the various European modifications. This suggests that the conception of large areas of Australia as unmodified wilderness requiring little or no management is misleading.

In the light of these discussions, a working definition of a cultural landscape for the Australian context is suggested:

A cultural landscape is a physical area with natural features and elements modified by human activity resulting in patterns of evidence layered in the landscape, which give a place its particular character, reflecting human relationships with and attachment to that landscape.

1.2 The relationship between cultural landscapes and the features they contain

The meaning and significance of cultural landscapes is largely derived from the relationship between the landscape and the elements within that landscape, as well as the relationship between the individual elements themselves. Thus landscape meaning and significance can be lost, when important components of a cultural landscape are removed, or evidence relating the feature to the landscape setting vanishes (such as a bridle path linking two settlements).

Partly in recognition of this, heritage conservation practice is moving away from identifying places items or dot points on maps, to examining the spatial context and connections of those places. For example, a hut and its associated yard can be identified and recorded either as one or two items, but an assessment of significance will consider their relationship to other places, features, and landscape both in physical terms (e.g. position along access tracks), and functionally (e.g. as part of a chain of huts used by stockmen along a stock movement route). In this way, features must be considered as essential components of a broader cultural landscape.

This means that a cultural landscape is an extensive, integrated management unit, not just the 'dots on the maps' representing zones around identified historic features. This is not to say that these 'dot are unimportant: they are physical relics of past use, and as such are vital features of the cultural landscape, with their own specific management requirements, within the broader context of the landscape.
Take for an example the management of abandoned pastoral properties, such as the Orroral Valley in the ACT. These places need to be approached as broadscale landscapes, requiring management of broadacre processes such as burning or grazing by cattle, or perhaps kangaroos, to maintain the open pastoral character, rather than being treated as an assemblage of 'dots'. But note that these 'dots', in the form of homestead, shearing sheds, fences and machinery, also require specific management regimes, not only for their own conservation, but also for the conservation of the landscape as a whole.

The point here is that neither the broader landscape nor the buildings and structures can be understood without reference to the other - that is, they are both integral components of the same cultural landscape, and both need to be conserved and managed to maintain the total landscape's integrity, meaning, and significance. The loss of one will reduce the significance of the other.

1.3 Describing the components of cultural landscapes

<table>
<thead>
<tr>
<th>Physical and non-material evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Burra Charter (see Box 2) uses the term fabric to describe all physical evidence of a landscape or landscape feature. This includes environmental and physiographic features, structures and their remains, and archaeological evidence. This contrasts with non-material evidence, such as literary or artistic references, or folklore, which may only exist in documentary form, literature, paintings, or in reminiscences and stories.</td>
</tr>
</tbody>
</table>

There are many types or forms of place that can be found as components of cultural landscapes, and there are several ways in which this physical evidence can be described. The Australian Heritage Commission used the following terms for classifying the different forms of places with historic value in their Victorian regional assessments:

<table>
<thead>
<tr>
<th>Structure</th>
<th>the physical remains of a deliberately constructed feature associated with human activity such as a building, hut, dam, water race or stockyard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complex</td>
<td>a number of features that are related to each other in some way, eg through use or function, such as the various structures associated with a farming homestead</td>
</tr>
<tr>
<td>Site</td>
<td>the location of an event, structure or complex, where no above-ground physical evidence remains</td>
</tr>
<tr>
<td>Feature</td>
<td>component or element of a landscape, including human structures, sites or complexes, as well as natural features eg avenue of exotic trees, alluvial deposit containing gold</td>
</tr>
<tr>
<td>Linear</td>
<td>network (long, narrow landscape or landscape component, such as a road or transport route and its associated elements, including stopping places, watering holes, stockyards, camps, etc</td>
</tr>
</tbody>
</table>
The United States National Park Service uses a similar approach, with some additions. Their Guidelines for Evaluating and Documenting Rural Historic Landscapes list 11 landscape characteristics to be identified and documented (McClelland et al 1990:3-6). These characteristics can be used to read and interpret the natural and cultural forces that have shaped the landscape. The first four are described as 'landscape shaping processes' that have been or remain instrumental in shaping the land, while the remaining seven are physical components. They are:

<table>
<thead>
<tr>
<th>Land Shaping Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Land uses and activities</td>
</tr>
<tr>
<td>2. Patterns of spatial organisation</td>
</tr>
<tr>
<td>3. Response to natural environment</td>
</tr>
<tr>
<td>4. Cultural traditions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical components</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Circulation networks</td>
</tr>
<tr>
<td>6. Boundary demarcations</td>
</tr>
<tr>
<td>7. Vegetation</td>
</tr>
<tr>
<td>8. Buildings, structures and objects</td>
</tr>
<tr>
<td>9. Clusters</td>
</tr>
<tr>
<td>10. Archaeological sites</td>
</tr>
<tr>
<td>11. Small-scale elements</td>
</tr>
</tbody>
</table>

Both these systems of breaking down the cultural landscape into its component parts are useful in analysis, assessment and management. Not all component types or landscape characteristics will apply to each situation; rather, it will be necessary to adapt them to suit the particular needs of your park, the project to hand, and the location and scale of the study. Component descriptions may be adapted from either of the above systems, as appropriate.
1.4 The scale of cultural landscapes: determining boundaries

The above discussions suggest that scale is an important consideration in the study, assessment and management of cultural landscapes. As noted, a cultural landscape is an extensive, integrated management unit, not just the 'dots on the maps' representing historic features and their immediate surrounds. Thus attention to both the broadscale landscape and the finer component features is required, for integrated cultural landscape analysis, assessment and management.

The scale, dimensions and forms of cultural landscapes will vary immensely, and may range from quite small, contained landscapes (such as a small farm with paddocks, fences and associated structures on fertile creek flats in a small section of a narrow valley, including transport routes to the property), to vast, extensive areas covering many square kilometres (such as a forest whose species composition and age structure has been changed through logging and silvicultural practices). Smaller cultural landscapes may themselves form part of more extensive cultural landscape areas, such as a group of pastoral settlements spread over a wide area, or as mentioned above, locations along a stock movement or transportation route.

Determining boundaries of cultural landscapes is necessary for analysis, assessment and management purposes. The concentration, continuity and integrity of cultural landscape characteristics that show significant historical themes should be used as a guide to defining boundaries (McClelland et al 1990). Historic research and ground surveys of the landscape will help determine appropriate edges, such as old survey or property documents defining the extent of land ownership, diaries or oral history detailing where activities took place, and physical evidence of borders, fences or hedges still discernible on the ground.

It is important to bear in mind the role that cultural landscapes and their management may play in broader landscape management. For instance, a cultural landscape may itself be an important component of a view from a point outside the landscape.

1.5 Significance of cultural landscapes (ie. their historical content)

Cultural landscapes, by definition, have a strong historical component. Human use of the landscape generally creates distinctive physical patterns, resulting in a cultural landscape that expresses past human attitudes and values, and exists as an artefact composed of identifiable physical remains. Determining the historic significance of these patterns and remains is central to the task of assessing the value of cultural landscapes.

"Historic significance exists in a landscape where the landscape or its components have strong links to or associations with important historic themes, and where the evidence assists in understanding the past."

Many of the important historic themes for the Alps National Parks have been identified, and are detailed in Part 2. Significance can be established at local, regional or national levels. How significant a cultural landscape or feature is will determine the conservation policy prepared for it, and how it is managed. The process of determining historic significance is discussed in Part 4 of this report. This section also looks at other categories of significance. Part 5 addresses conservation policy and management.
1.6 Layers of meaning in cultural landscapes
An important characteristic of many cultural landscapes is their multilayered quality - that is, they may contain many features, created or used by people at different historic periods, that may illustrate a number of themes at once. For example, a river crossing may have been used by:

- Aborigines, leaving archaeological evidence in middens on the river bank;
- explorers, whose journals describe the river and the difficulty of crossing it;
- by stockmen, who erected yards to hold the stock while camping or before crossing the river; and
- holiday makers, who now use the river bank as a recreational site and camping ground.

This multilayered quality has several implications for cultural landscape management, and must be borne in mind when documenting, analysing and managing them. For instance, a cultural landscape may be significant because it demonstrates a number of themes and historic periods simultaneously - more so if these are connected in some way. Thus features which may appear to be insignificant (eg because they may be recent, or lack aesthetic appeal or craftsmanship) may actually contribute to the meaning and significance of the site, by demonstrating continuity of use, or by adding a further layer of historical meaning.

1.7 Nature and culture
There is increasing recognition, both internationally and nationally, of the need to manage landscapes as composites of both natural and cultural influences. This holistic approach is not new, however, owing much to the work of German, French and other geographers. For instance, as early as 1929 Carl Sauer wrote that:

The cultural landscape is fashioned out of a natural landscape by a culture group. Culture is the agent, the natural area is the medium, the cultural landscape is the result. Under the influence of a given culture, itself changing through time, the landscape undergoes development, passing through phases ... (Sauer, 1929:46)

The reference here to a landscape passing through 'phases' underscores the multilayered nature of meaning and history in a cultural landscape. It also shows that the cultural evolution of a landscape does not 'stop'. For example, the now-abandoned, highly modified pastoral landscapes of the Australian Alps have now become national park landscapes, with features and patterns created by the activities of park staff implementing park management plans, and the practices of present-day park users. This represents a new phase of culture expressing itself through the landscape, with significant impacts on the landscape's natural components. New layers of cultural meaning and natural form are being created all the time, through the complex interplay of cultural and natural forces.

The recognition of the interrelationship between culture and nature in landscape management has led to co-operative arrangements developing in some overseas services. In England, for instance, there has been increased co-operation since 1992 between English Heritage, English Nature and the Countryside Commission on the definition, assessment and conservation of historic landscapes.
The following quote in the English Heritage Conservation Bulletin illustrates this co-operation:

... our two sets of interests - the archaeological and historical environment on the one hand and the natural heritage on the other - should be seen as part of a single overriding concern with our common inheritance. To separate one strand from the others is to weaken the impact of our work. (Fairclough, 1993:24)

An example of this integrated approach is English Nature’s Natural Areas project. One aim of this project is to identify distinctive cultural affinities and influences that have helped shape the ecology of certain landscapes, that are now considered significant for their natural values (Fairclough, 1994:17). This information assists in the design and implementation of management regimes for these areas, that achieve both cultural and natural conservation objectives simultaneously.

Recognition of the interplay of nature and culture in creating landscape is increasing in Australia too. For example, the Australian Nature Conservation Agency now uses the term ‘biocultural’ to describe ANCA parks landscapes and landscape processes.

Closer to home, and with greater relevance to these Guidelines, the 1986 Memorandum of Understanding in Relation to the Co-operative Management of the Alps National Parks (MOU) was aimed at managing both nature and the human processes which have created our alpine landscapes. The MOU recognises the national significance of the ‘plants and animals unique to the Australian alpine environment’, as well as the ‘rich heritage of use by both Aboriginal and non-Aboriginal people’ (MOU 1989:3). The MOU goes on to specify the objectives for co-operative management to protect these values, including ‘protection of the landscape’, and ‘protection of native plants and animals and cultural values’ (MOU 1989:4). In effect this involves the management of both natural and cultural systems simultaneously - that is, cultural landscape management.

1.8 Aboriginal cultural landscapes

Through the application of long-established land-use and management practices, Aborigines have played a major role in the evolution of Australian landscapes.

In the Alps, the evolution of Aboriginal cultural landscapes began at least 21,000 years ago, possibly much earlier. Aborigines exploited all resource zones in alpine areas, and some of these activities resulted in deposition of cultural materials in rock shelters and camp sites. Further evidence occurs in the form of rock paintings, stone arrangements, burial sites and scarred trees. The use of fire for land management purposes, noted by the first European explorers of the Alps, may have been instrumental in the evolution of Alps National Parks landscapes.

It is vital to recognise the formative management practices of these first Alps occupants, both as part of the cultural history of the Alps, and as a basis for present-day ecological management. A number of issues are involved, however, such as the difficulties of establishing details of past land-use and burning practices as a basis for present-day landscape management, and the need to define an appropriate role for present-day Aboriginal communities in these processes. The complexity of these issues is beyond the brief of this project. It is anticipated that the Aboriginal heritage of the Alps, including Aboriginal cultural landscapes and landscape components, will be the subject of a further study by the CHWG.
1.9 Why conserve cultural landscapes?

The conservation and management of cultural landscapes with heritage values is important for a number of reasons.

Firstly, all the legislation establishing National Parks in the ACT, New South Wales and Victoria, refers to the conservation of cultural values, and in the Alps National Parks these are most strongly embodied in cultural landscapes and their features. Similarly, the MOU was established to coordinate the conservation and management of landscape and cultural values. Thus parks staff have a professional responsibility with respect to cultural landscapes and their conservation and management.

Secondly, the relative security afforded by the controlled environment of a national park provides a means for conserving landscapes that have disappeared outside park boundaries. Thus they may act as repositories of landscapes that are threatened or ‘extinct’ elsewhere.

Thirdly, the conservation and study of cultural landscapes within parks provides both a yardstick by which to measure environmental change, when compared to less modified natural systems, and the highly modified landscapes that exist outside parks boundaries. This contributes to our knowledge of ecological and environmental processes, and increases our understanding of human interaction with natural systems. Hopefully, this will help us devise more harmonious and sustainable landscape management regimes for the future.

Finally, and most importantly for these Guidelines, cultural landscapes are in fact primary documents of public history, which present our past before us in a unique way which allows us to find attachment and a sense of place. For instance, many Australians identify with the landscape image of the Snowy Mountains as a place of particular pastoral history, and derive a sense of belonging and identity with this landscape and its traditions. Thus cultural landscapes help us understand the past and where we have come from, enrich the present by assisting us to define who we are, and hopefully, will be of similar benefit to future generations.

In these ways, the conservation of significant cultural landscapes in the Alps parks contributes to the lives of all Australians.

The importance of conserving significant places is summarised in the Illustrated Burra Charter:

One of the fundamental reasons for conserving places is that they contain information that documents, photographs, drawings, film or video cannot. The insights we receive from places are diverse, subtle, and not available from any other source. There is no substitute for the experience of the actual place. (Australia ICOMOS 1992:10-11)
Part 2

Cultural Landscapes

in the

Australian Alps

National Parks
Australia is alone among the world's continents in its flatness. Only a small proportion - 2% - rises above 1000 metres, with alpine environments occupying a mere 0.3% of the total land surface. The human response to this environment has left highly distinctive patterns of evidence on the landscape, reflecting the unique combination of social, economic, political and technological influences. This section lists the types of activities which were most important in shaping these patterns of evidence, and examines the origins of the distinctive landscapes in which this evidence is present.

Several characteristics of Alps cultural landscapes are worth mentioning at the outset. Firstly, the fact that alpine environments are so limited in area in Australia means that the significance of cultural landscapes and features that represent alpine themes, or demonstrate adaptation of human activity to the alpine environment, must be considered in a national context. The only other area in which Australian alpine environments occur, of course, is Tasmania. Thus mainland alpine cultural landscapes and landscape features that are considered significant in the Alps National Parks stand a good chance of qualifying for national significance as well.

The second characteristic of Alps cultural landscapes is their cultural continuity: many landscapes and features have been used by successive occupants, often undertaking quite different activities, in the pursuit of quite different ends. Thus, more than one theme may apply to a particular landscape or landscape feature at the same time. An example is the sequential use of Aboriginal pathways, used by explorers (exploration theme), stockmen (pastoral theme), motorists (communication and transport theme) and bushwalkers (recreation theme). Another instance is the Thredbo Valley, a place with evidence of many themes from different historic periods, possessing multiple layers of meaning. Cultural landscapes in other regions may also demonstrate this quality.

The third characteristic is the multifaceted nature of cultural significance in the Alps, in which a feature or landscape demonstrates several categories of significance at once. Thus a hut may exhibit social, technological and architectural significance simultaneously. This results in a complex landscape, possessing various categories of significance.

The fourth characteristic is the significance of the Australian Alps as both barriers and pathways for a wide range of human endeavours, including trade paths, stock routes, and recreation corridors.

Finally, significance may relate to cultural associations as well as to the intrinsic physical qualities of a place. The Alps, for instance, feature prominently in Australia's 'heritage of inspiration' - as evidenced in Chevalier and von Guerard's paintings, or Banjo Patterson and Campbell's poetry.

2.2 Themes

Human occupation and the activities pursued by people in the Alps can be grouped into themes, by virtue of their similarities. Thus quartz mining and hydraulic sluicing are sub-themes of the main theme, mining. Although a definite sequence of themes can be observed in the Alps (for instance exploration was followed by pastoralism, which was followed by mining), many activities representing the major themes have taken place over long periods, either on a continuous or intermittent basis. In this way, a theme may be represented several times in the one landscape, at different historic periods. Each period may have its own nuance of historic meaning, and may possess
different degrees of significance. In many cases, the practices and technologies associated with an activity are likely to differ greatly between historic periods. In others, however, practices and technologies may have remained intact.

There are several different schemes setting out the main historic themes for the Alps. For our purposes, the most important is that used for the 1991 Jindabyne Symposium on the Cultural Heritage of the Australian Alps (Scougall 1991). These are the themes that will be used in these Guidelines. They are:

- Aboriginal occupation and interaction with the environment prior to European contact
- Exploration and survey
- Pastoralism
- Mining
- Logging and silviculture
- Water harvesting
- Recreation and tourism
- Communication and transport
- Conservation and park management.

Note that there are processes and agents of environmental change shaping the landscape that operate across themes. Fire, for instance, has a strong influence on all of the above themes. In particular, it is a practice strongly associated with Aboriginal occupation and pastoralism, and helps generate the Aboriginal and pastoral cultural landscapes with which we are familiar.

On a more general level, note that the Australian Heritage Commission and state heritage agencies are working towards a set of recommended Principal Australian Historic Themes. Although these will not be used in these Guidelines, it is likely that they will one day be applied as 'super-categories', encompassing existing Alps themes. They are also useful in linking the local and regional Alps events with national themes. They are described as follows:

- Tracing the evolution of the continent's special environments
- Peopling the continent
- Developing local, regional and national economies
- Building settlements, towns and cities
- Working
- Educating
- Governing
- Developing cultural institutions and ways of life
- Marking the phases of life

Note that regional, state and national themes may be expressed in Alps landscapes, just as often as the particular Alps themes given above. National Park Service history and heritage sections may have a set of themes that apply in each state or territory.
### 2.3 Themes and Alps cultural landscape types: classification

The activities characteristic of each theme have left their mark on the landscape in different ways, reflecting the variety of peoples, their technologies, and their impacts. Examples of the main landscapes and landscape features associated with each theme are described in Table 1, below. This table also details the sub-themes that occur within each theme. Examples from each state are given. This is intended to show how the themes relate to landscape types in the Alps.

**Table 1: Thematic classification for cultural landscape types in the Australian Alps National Parks (theme structure from Scougall 1991)**

<table>
<thead>
<tr>
<th>THEME</th>
<th>DISTINGUISHING FEATURE</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal occupation</td>
<td>river valley pathway</td>
<td>Snowy River valley</td>
</tr>
<tr>
<td></td>
<td>river flats campsite, artefact scatters</td>
<td>Thredbo River flats</td>
</tr>
<tr>
<td>Exploration and survey</td>
<td>place given a European name by an explorer</td>
<td>Mt Kosciusko</td>
</tr>
<tr>
<td></td>
<td>place named after a surveyor</td>
<td>Mt Townsend</td>
</tr>
<tr>
<td></td>
<td>route</td>
<td>Barry Way</td>
</tr>
<tr>
<td></td>
<td>crossing place</td>
<td>McKillops Bridge</td>
</tr>
<tr>
<td>Pastoral</td>
<td>homestead, complex, shearing shed, yards, dips, salt lick</td>
<td>Currango, Wonnangatta</td>
</tr>
<tr>
<td>* transhumance</td>
<td>hut and mustering yards</td>
<td>Tawonga Huts</td>
</tr>
<tr>
<td></td>
<td>hut ruins; exotic trees</td>
<td>Westerman's</td>
</tr>
<tr>
<td>* droving</td>
<td>routes, yards, water supply, vegetation impact</td>
<td>Willis</td>
</tr>
<tr>
<td>Mining</td>
<td>altered watercourse, water races along contour, eroded and braided creek</td>
<td>Crooked River</td>
</tr>
<tr>
<td>* alluvial</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* sluicing</td>
<td>broad eroded areas, water races, sluices</td>
<td>Oriental Claims, Kiandra</td>
</tr>
<tr>
<td>* quartz</td>
<td>shafts, mullock heaps</td>
<td>Good Hope mine</td>
</tr>
<tr>
<td>* dredging</td>
<td>flat, gravelled river course</td>
<td>Gungarlin River, Ovens River north of Harrietville</td>
</tr>
<tr>
<td>* settlement</td>
<td>building footings, street formations, exotic trees, cemetery</td>
<td>Kiandra, Grant</td>
</tr>
<tr>
<td>Logging</td>
<td>sawmill, water race, steam engine and fly wheel remains, brick chimney footings, hut remains, sawdust pile</td>
<td>Kelly's Providence Mill on Alpine Creek</td>
</tr>
<tr>
<td>Silviculture</td>
<td>uniform forest age-class structure and species composition</td>
<td>Connors Plain</td>
</tr>
<tr>
<td>Water harvesting</td>
<td>dam walls, reservoirs, stream gauges, diversion weir, pondage, tailrace, tunnel, surge tank, valve house</td>
<td>Rocky Valley, Tumut Ponds Kiewa River Scheme, Snowy Mountains Scheme</td>
</tr>
<tr>
<td>* hydroelectricity generation</td>
<td>reservoirs, pipelines, valves</td>
<td>Lake Catani, Mt Buffalo</td>
</tr>
<tr>
<td>* water supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreation and tourism</td>
<td>lookout, walking tracks, chalets, ski runs</td>
<td>Kosciusko Chalet, Mt Franklin Chalet and ski runs</td>
</tr>
<tr>
<td>Communication</td>
<td>telephone poles, tracking station</td>
<td>Orroral Valley</td>
</tr>
<tr>
<td>Transport</td>
<td>bridle tracks</td>
<td>Wheeler's Crk, McMillan's Trk</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td></td>
<td>roads</td>
<td>Barry Way</td>
</tr>
<tr>
<td></td>
<td>tunnel</td>
<td>Bluecow Skitube</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conservation and science</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>* vegetation trials</td>
<td>arboreta</td>
<td>Pryor's, Brindabellas</td>
</tr>
<tr>
<td>* impacts of exploitation</td>
<td>exclosure plots</td>
<td>Maisie Fawcett's at Pretty Valley</td>
</tr>
<tr>
<td>* soil conservation</td>
<td>star pickets</td>
<td>soil conservation monitoring points, Carruther's Ridge; Mt Twynam</td>
</tr>
<tr>
<td>* alpine vegetation studies</td>
<td>treeline plots</td>
<td>planted by R. Slatyer on Main Range above Thredbo Valley</td>
</tr>
<tr>
<td>* geological studies</td>
<td>road cuttings</td>
<td>carbon 14 dating sites, Geehi Road</td>
</tr>
</tbody>
</table>

2.4 The institutional framework

The ability of the National Parks Services to manage cultural landscapes depends in large part on the institutional and administrative arrangements that exist, and the form that the legislation takes. These determine factors such as the responsibilities of parks staff for cultural landscape management, departmental support, budgetary allocations, and so on. The legislation applying to cultural landscape management is set out in Table 2.

Note also that other parks policies and procedures manuals may be relevant, but may need to be adapted to suit the needs of cultural landscapes and historic places. For instance, standard parks interpretive furniture may need to be modified for use in some cultural landscape situations. All Parks Service policy and procedures documents require the inclusion of a section dealing specifically with these issues. "The Australian Alps national parks agencies should aim for consistency in cultural heritage policies and procedures".

Table 2: Legislation relating to cultural landscapes in A1s Parks

<table>
<thead>
<tr>
<th>AGENCY</th>
<th>RELEVANT ACTS</th>
</tr>
</thead>
</table>
| Victorian National Parks Service, (Department of Natural Resources & Environment) | National Parks Act 1975  
National Parks (Alpine National Park) Act 1989  
National Parks (Wilderness) Act 1992  
Heritage Rivers Act 1992  
Archaeological and Aboriginal Relics Preservation Act 1972  
Heritage Act 1995 |
Environmental Planning and Assessment Act 1979  
Wilderness Act 1987  
Heritage Act 1977 |
Heritage Objects Act 1991 |
| All the above and Commonwealth of Australia, Australian Nature Conservation Agency | Australia Heritage Commission Act 1975 |
Part 3

Overview

of the

Process
Flowchart 1. Overview of the cultural landscape management process

Step 1

1. Set historical context (refer Section 4.1.1)

2. Define the landscape (refer Section 4.1.2)
   - Document and record (refer Section 4.1.3)
   - Conduct detailed historic research (refer Section 4.1.4)

3. Analyse (refer Section 4.2)

4. Assess significance (refer Section 4.3)

Step 2

1. Develop conservation policy (refer Sections 5.1 - 5.2.1)

2. Develop conservation strategy (refer Section 5.2.2)

Step 3

1. Implement strategy (refer Section 5.3)
Recognising the need for a systematic approach to complex conservation issues, Australia ICOMOS (International Council on Monuments and Sites) has developed a set of guidelines for establishing significance and developing conservation policy. This is known as The Burra Charter and Guidelines.

The Guidelines are particularly useful because they offer a methodology for assessing the significance of the cultural values of a place, and for preparing conservation plans and management recommendations based on this assessment. Much of the material in this document is based on the Burra Charter and Guidelines. It is an invaluable tool for anyone involved in the conservation management of cultural landscapes, so make sure there is at least one copy in the office. Familiarise yourself with what its advice means in terms of the places in your park. And note that it nearly always features in interviews for ranger's jobs!

Step 1

3.1 Assess cultural significance

3.1.1 Gather evidence

- Set the general context: find out about the general history of the area, and if possible the place, so that you know generally what type of features you will be looking for. This should assist you with interpreting and understanding what you see in the field.

- Define your landscape!

- Document the landscape: identify and record the cultural landscape and its features, through field survey.

- Conduct historic research: undertake more detailed historic research on the landscape and its features.

3.1.2 Analyse the evidence

- Determine which features and characteristics are associated with the various themes and historic periods identified.
• Determine the relationships between the landscape and the features, and between the features themselves. This includes considering the sequence of events and evidence, the relationship in physical terms and in function. For example, which features are the most important in forming or defining the landscape? Is the presence of one feature dependent on the former existence of another (e.g., border crossing point built at Willis to collect cattle toll tax, after use of the route to avoid the tax was well established)?

3.1.3 Assess significance

• Assess the significance of the landscape, its features, and the relationships between them, on the basis of how well the themes and historic periods are represented. Use criteria such as rarity, how well represented elsewhere, condition, and how integrated (i.e., how complete with respect to structures, components and relationships) the site is. Assistance in making comparative assessments may be required.

Step 2

3.2 Develop the conservation policy and strategy

3.2.1 Gather information.

• Look at the condition of the landscape and features, select appropriate treatments.

3.2.2 Develop conservation policy.

3.2.3 Develop strategy for conservation works and actions.

Step 3

3.3 Implement the strategy

• Implement the strategy, either as a stand-alone conservation project, or by integrating it with the park management plan.

Following this step-by-step process allows you to make informed decisions about managing the landscape for the conservation of its cultural values. Part 4 of these Guidelines address step one; Part 5 deals with steps two and three.
Part 4

Assessing the significance of cultural landscapes
This section enables the significance of the landscape and its features to be assessed prior to developing conservation policy and undertaking management. This involves the following components:

**Flowchart 2: Researching and assessing the significance of cultural landscapes**

**Step 1**

**Setting the historic context**
- read histories
- consult timeline
- consult experts
- identify main themes

**Defining the landscape**
- systematic searches
- general observation
- consultation

**Survey & document**
- location
- description
- condition
- threats

**Conduct detailed historic research**
- primary historic research
- photographic & pictorial evidence
- oral histories
- consult experts etc
- identify themes
- identify historic periods

**Analyse**
- chronological ordering
- linking features to historic themes and periods
- identify relationships
- explain spatial distribution of features
- examine works

**Assess significance**
- select criteria
- check to see if features and landscapes meet criteria
- compare with other landscapes
- prepare statement of significance
4.1 Gathering information - "4.1.1 Setting the historic context

Identify major themes and important historic periods that relate to the landscape. This will help you to recognise cultural landscape features, and to interpret what you see in the field. It may also help you define your landscape. For instance, if you read that alluvial mining along creek flats was a major early activity, it may explain the pattern of disturbance seen in alluvial deposits, or it may suggest that you look for mullock heaps or water races in these landscapes. Likewise, if logging took place, you may look for timber tramways, or log-loading ramps. The preferential extraction of one favoured species may also help explain the species composition of forest landscapes.

These steps will help you set the historic context: Read local and regional histories. - - -- -

- When was the park first explored?

- When was it settled, and by whom? Are there any descendants or oral histories that could tell you more?

- How was the landscape used, and what particular activities took place there?

- What were the main features of the land use? For instance, how were pastoral properties run or how was mining conducted?

- Construct a time line of significant events impacting on the park and its landscapes.

- Make a bibliography of historical references.

- Talk to locals, local historians or historical societies to get an initial orientation.

This research may provide further clues to the origins of the spatial distribution of settlement, the pattern and type of the transport systems, the variety of building materials and construction techniques, the backgrounds of the settlers, and other important information about the industries and activities undertaken in the landscape.

4.1.2 Defining cultural landscapes

In a broad sense, all of the Alps National Parks form part of the same cultural landscape, as they are all managed according to a similar set of National Parks objectives. However, evidence of specific Alps themes may occur at a much finer scale within Alps Parks. These 'landscapes within a landscape', demonstrating a concentration of components relating to one or several Alps themes, can be located in a variety of ways.

Defining cultural landscapes and their features can be undertaken through a systematic search of a region by theme, (for example, a search for evidence of early surveyors' activities as part of a special project); during the conduct of other studies, or merely by coming across cultural landscape features
in the field, in the course of other duties. Many parks staff already know the location of cultural landscape features in their area, such as building ruins, exotic trees, or old fencelines. In some cases, members of the public may alert staff to cultural landscape features.

**Hints to defining cultural landscapes and their features:**

**Your existing knowledge** Use your knowledge of the local and regional history as a guide. What are the important physical components of the landscape, that influenced settlement and land use? For instance, pastoralists sought lush, fertile well-grassed locations; miners followed alluvial deposits up narrow creek valley, while loggers sought out particular tree species. Identify the topography, geology and soils, drainage and water courses and vegetation that may be related to particular activities, and use these as a guide. People with specialist knowledge of the park may be helpful here; vegetation or geological maps may give some clue.

**Existing information** What sites and components have already been identified? Check Parks Service history or heritage section records and databases. Also check the Australian Heritage Commission’s register, and National Trust landscape listings.

**Others knowledge** Ask park staff who have a good knowledge of the area, or who have worked a long time in the region, if they know of any unusual features. Consult with local historians and historical societies. Oral histories with old-timers or settlers descendants can be particularly helpful.

**Observation** Get in the habit of looking out for cultural landscape features in the course of your duties. Make sure that you note down anything of interest, taking special care to explain its location, so that it is easy for someone else to find. Sketch maps, photos, notes and so on are all useful. Start a file in the office, and make sure that other staff know of its existence. Get them to contribute to it too.

**Search for further information** Co-ordinate systematic searches for particular cultural landscape types or features with your Service historic places or heritage section. They may already have plan for such a programme underway. Likewise, co-ordinate with other MOU Parks Services: this is the only way that Al s-wide inventories and databases of thematic cultural landscapes and features can be built up. This is an essential step before Alps-wide assessments of significance can be made. [Management recommendation]

**Cross-border co-operation** Co-ordinate with the AALC Cultural Heritage Working Group on systematic searches. Let them know of any thematic landscape or feature searches that you are thinking of conducting. They may initiate and co-ordinate similar searches in other MOU parks.

**External assistance** Apply for external funding or assistance to locate and research cultural landscapes in your area. Students in search of field work experience or undertaking tertiary heritage courses may be interested in participating.

Now you will need to decide whether or not your landscape has cultural values worthy of further investigation. Examine the features in the light of the activities you know took place in the area gleaned from your knowledge of the historical background. Do they demonstrate important Alps themes, or more general historical trends? The first step is to research the landscape in more detail.
4.1.3 Surveying and documenting cultural landscapes

Once a cultural landscape and its features have been defined, you will need to survey, record and document them. This allows you to carry out further research and analysis of the place when you're back in the office. It also ensures that a permanent record of the landscape exists.

The scale of the landscape to be recorded will determine the techniques used for documentation. For instance, a small compact landscape with few features is easily recorded by one person with a sheet of paper, a tape measure and a compass in an hour or two. On the other hand, an extensive, complex landscape with many features may take a team of experts several weeks to survey and document.

Information you will need to record for the landscape and its features includes:

a) location
b) description
c) existing condition
d) threats

a) Location Methods and tools for surveying and documenting cultural landscapes

A variety of methods and tools for recording the physical evidence of cultural landscapes and their features is available (McCann 1994:130-131).

<table>
<thead>
<tr>
<th>Method</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topographic base</td>
<td>for identifying and plotting existing physical features and historical evidence maps are essential.</td>
</tr>
<tr>
<td>Global Positioning System (GPS)</td>
<td>record the boundary co-ordinates of the landscape being described, and the coordinates of features within the landscape.</td>
</tr>
<tr>
<td>Specialist plans</td>
<td>such as enlargements of an annotated portion plan, mining surveys and aerial photographs, can be used to assist in locating particular sites, structures and boundaries, and in determining the spatial relationships and links between them</td>
</tr>
<tr>
<td>Aerial photographs</td>
<td>may be useful for recording the position of features and boundaries - especially if the landscape is extensive.</td>
</tr>
<tr>
<td>Field notes</td>
<td>should be made, describing the physical setting, condition, relationship between elements, threats, matters requiring follow-up action or research.</td>
</tr>
<tr>
<td>Photograph the landscape and its distinguishing features</td>
<td>record the date, location and orientation of the view taken, and note this information on a map. Make sure the point from which the photo was taken is marked or can easily be found again. This allows photos to be taken from the same spot over time, to record landscape changes.</td>
</tr>
</tbody>
</table>

Natural and cultural features should be plotted onto the topographic base map or plan. GPS grid references can then be used for specific reference. Be sure to mark scale and direction on plans or sketch maps.

Always go into the field fully prepared, with pens, pencils (including 'chinagraphs' for marking aerial photos) compass, tape measure, graph paper (useful for setting out a scale plan of a cluster of cultural landscape features), photocopies of base maps, plans and aerial photos to draw on, and bags for collecting plant materials for identification. An ill-prepared field trip that fails to obtain the vital information represents lost time and money. And make sure you have all the right permits!
b) Description

Features and characteristics to be surveyed and documented

Whatever the nature, type or scale of the cultural landscape being documented, you should always record the following (McCann 1994:131-132):

<table>
<thead>
<tr>
<th>Features &amp; characteristics</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vistas, vantage points and landmarks</td>
<td>These may have been important for orientating early visitors to the area, may have served as navigational aids, or have recreational, aesthetic or spiritual value for different groups in the local community. Don't forget views into the landscape, or views of features such as tall trees or towers, from ridgetops, roadways plains etc.</td>
</tr>
<tr>
<td>Circulation networks</td>
<td>These include major and minor roads, abandoned roads, bridle tracks, stock routes, walking tracks, cattle pads along contours, river/creek/water access, water races, timber tramways and snig tracks.</td>
</tr>
<tr>
<td>General patterns in the landscape</td>
<td>This requires describing the topography and other relevant physiographic and environmental data - for instance flat, undulating, comprised of a series of closed and open areas, forested ridges, patches of vegetation interspersed with cleared grazing land, valley, swampy, sheltered, windy etc.</td>
</tr>
<tr>
<td>Imprints of past landuses</td>
<td>These include evidence of grazing, crop growing, forestry, quarrying, mining, water supply, recreation, conservation.</td>
</tr>
<tr>
<td>Water bodies</td>
<td>Dams, creeks, water races, lakes, swamps are all vital landscape elements that may have had a strong influence on settlement and landuse patterns. Note that settlement and landuse themselves can influence and shape the character of these elements.</td>
</tr>
<tr>
<td>Vegetation characteristics</td>
<td>These include forest structure (eg species and age-class composition), presence of regrowth, formal plantings, cleared land, presence of exotic species, weed infestation, remnant orchards and gardens.</td>
</tr>
<tr>
<td>Clusters of structures</td>
<td>These will relate to each other either functionally (eg sheep run, sheep dip and shearing shed associated with wool production), or within a geographic context such as access to water supply (eg campsite, stock-watering point, and property boundaries may be located together due to common need for water, though not necessarily related by function).</td>
</tr>
<tr>
<td>Divisions within the landscape</td>
<td>Boundaries and demarcations may relate to formal surveys or topographic factors which have determined the location of previous property boundaries and circulation routes.</td>
</tr>
<tr>
<td>Building materials and construction techniques</td>
<td>These may reflect the availability of materials, response to environmental conditions such as wind direction or snow fall, or the particular customs, aesthetic preferences and skills of different social groups.</td>
</tr>
</tbody>
</table>

c) Existing condition

Condition refers to the state of repair or `integrity' of the landscape and its features, and whether they appear to be stable, degrading, or improving. Although the condition of a landscape or feature does not affect its historic significance, determining its condition will help you choose an appropriate management strategy for the protection of its values.
Recording the existing condition of the landscape is important for ongoing management, because it allows the rate of change to be monitored over time. By referring to your condition report, either yourself or future managers will be able to decide how much change has occurred, and whether this is consistent with the management treatment selected for the place.

Make sure you are clear about the terms you use, and give specific details of condition wherever you are able, referring to the plans you have drawn when necessary. General descriptions of condition may include very poor, poor, fair, good or excellent, while stability may be described as degrading, stable or improving.

Examples of condition descriptions might include:

- **The state of exotic vegetation:** are the plants are in good health or are they diseased; are they vigorous or in decline; have plants died, or have weeds invaded.
- **Structures:** are they stable, or are they degrading? Are they intact or are significant portions of them missing or damaged? Are they subject to rot or decay?

**d) Threats**

Threats refer to any processes that if allowed to continue unchecked will over time degrade the values and condition of the landscape and its features.

Identifying and documenting the threats to a landscape allows you to prepare an appropriate management plan for the landscape and its features once you are back in the office. Record the location of any threats in your survey, and give as many details as you think will be necessary for devising an appropriate response. For instance, if weed invasions are a threat, what species are they? What area do they cover? If animals are undermining structures, where exactly is this occurring? Is the threat serious?

Threats to landscapes and their structures come in many guises. For example, look out for vandalism, rot, wind or water damage, erosion, undermining of foundations, weed invasion, risk of fire, roading and associated works, trampling and also be aware that inappropriate management strategies or techniques or a failure to recognise the real significance of a place can also constitute a threat.

You should also refer to section 1.3 on Describing the components of cultural landscapes in Part 1 of these Guidelines, for further hints on what other components you might need to look for and document. Each landscape will have its own unique combination of features and characteristics, so you will have to create your own mix to suit the situation.

Note that consistent recording techniques and documentation must be developed and adopted, across the three MOU management agencies. (Currently, only New South Wales has standard recording forms for both Aboriginal and historic places.). It is also essential that site survey and database formats are compatible across Services. This is a prerequisite for the preparation of Alps wide databases of landscapes, themes and features. These databases will allow the heritage qualities of landscapes and their features to be compared Alps-wide, thereby enabling proper assessments of significance to be made. [Management recommendation]
4.1.4 Researching the history of cultural landscapes

The process of building a general historical picture through reading and consultation (see 4.1.1) is essential for an initial orientation to a park's cultural landscapes. However, before you can start ascribing themes, historic periods and significance to the landscape and its features, you will need to undertake more detailed, place-specific historical research.

This process can be time consuming and you may require expert assistance. You may need to consult with your Park Service's history or heritage section, engage a professional historian or draw on voluntary assistance from local historical groups and organisations.

You will need to collect historical information from a wide range of sources, including those already mentioned in Section 4.1.1. To this add (McCann 1994:126):

- Reports held by Parks Services in local, regional or head offices.

- Local and regional histories.

- Thematic histories, eg on mining, pastoralism or sawmilling, such as Tor Holth's *Cattlemen of the High Country*.

- Histories structured around features, such as Klaus Hueneke's *Huts of the High Country*.

- Historical maps (there are many sources for these, including hand-drawn maps contained in government files or personal journals, survey plans, and maps held in archives).

- Historical photographs, lithographs, sketches, paintings and postcards.

- Local newspapers (back copies held in local historical archives or regional or state libraries).

- Land selection records.

- Gazetteers and Post Office directories.

- Family or business papers.

- Personal diaries or field journals of explorers, surveyors, visitors, residents or scientists.

- Government files: reports on specific land-use practices and Crown Lands management records such as pastoral leases.

- Census records: these show demographic patterns.

- Statistical returns.

- Government reports and journals, for example the soil conservation journal.
• Parliamentary papers: Royal Commissions and Select Committees of Inquiry usually contain minutes of evidence from local residents, as well as official reports and findings on specific issues.

Most of the above sources are held in State Libraries in metropolitan cities, and you may require assistance in researching them. Public records offices hold many important documents. Park Services' central libraries or archives may have some reports of interest. Local Park Service, forestry or water management authority offices may still contain old files with relevance to your landscape.

Other sources include:

Oral histories: Recollections of local residents can provide insights into changes in their environment during their lifetimes. You may also find people who once lived or worked in your park. Visiting sites and features with them in the field may yield excellent information. Recording their testimony on tape provides a permanent record. Klaus Huenecke and Tor Holth have both recorded and published extensive oral histories with Alps identities. The CHWG has also recently completed its own theme-based oral history project, and has compiled a bibliography of all Alps oral history sources (Hodges, 1993).

• Community groups, such as historical societies, progress societies and sporting and other clubs, may hold records, such as minutes of meetings, as well as knowing the whereabouts of former residents and people who may be able to assist you.

Once you have collected all the relevant information, you need to see how it relates to the historic themes outlined in Part 2 of these Guidelines. Remember that the purpose of this detailed historic research is to assist in understanding the landscape and its features in terms of these themes, and to help explain how the components relate to each other, in time and with respect to use. Historical research will also help identify how activities and processes (political, economic, technological, social and cultural) relate to the landscape and its features over time, who was involved, what were the most important landscape-shaping events, and so on. This leads in to the next stage: analysing the evidence.
4.2 Analysing cultural landscapes

Analysing and interpreting what you see in the field basically involves relating features to local and wider historical themes, and ascribing features and evidence of themes to historic periods.

The first step in analysis is to separate the complex range of documentary and physical evidence as it appears in the landscape into its component parts, on the basis of close examination in the field and documentary evidence. These components can then be ascribed to the themes and historic periods identified. This can be done, for instance, by linking physical evidence (such as the age of features as identified in the use of materials, techniques or styles characteristic of a particular time), with historic periods discovered through documentary research. Similarly, features can be ascribed to themes, on the basis of the uses to which they were put. Sheep dips, for instance, obviously relate to the pastoral theme.

Methods to assist in the process of analysis of the information include the following (McCann 1994:133-134):

- Chronological ordering of the place's history, reflecting the sequence of human occupation and the way in which the landscape has evolved over time. This enables historical phases to be defined and linked to wider social and economic themes. It may be useful to set this out graphically in the form of an historical time line, or chart.

- Explanation of the spatial distribution of components, illustrating how clusters of individual features and sites interrelate within the broader landscape setting.

- Examination of networks: networks and connections link landscape components and human systems, forging an integrated, coherent setting with a distinct cultural landscape character. Network links may remain visible over time, or may become indistinct through regeneration of vegetation or erosion.

Information can be represented in a series of map overlays. For example, plotting sheep paddocks or runs over a topographic base map may reveal that sheep grazing did not extend above a certain altitude; or plotting mining site relics over a geological map could indicate the routes connecting mine sites, and how the distribution of geological formations and the search for payable gold interacted to shape the landscape. Alternatively, the information could be plotted on a series of map overlays to show successive or sequential uses and the resulting changes in the landscape over time. For example, a forest area could have been cleared and grazed, then abandoned; recolonised by forest, selectively logged, and finally reserved for conservation. These map overlays can be stored in a Geographic Information System as computerised data to which other variables can be added for further analysis. They should also be held as hard copy maps.
Points to consider in the analysis of cultural landscapes

In analysing the data and drawing conclusions about the landscape, the following points should be considered (McCann 1994:134):

- **The relationship between the elements reveals the characteristics of the cultural landscape.** How intact these relationships are, e.g., through the retention of linking and network features, or the persistence of ‘keystone’ features, helps determine the integrity of the landscape. Integrity is the extent to which the historic layers, meanings and relationships between elements remain intact and can be read in the landscape.

- **All landscapes are dynamic.** The visual changes in landscapes over time can be dramatic. For instance, a scene captured in a colonial photograph or described in surveyor’s field notes may be unrecognisable now. Evidence of successive activities may be revealed in isolated, apparently random remnants. Thus a few straggling hawthorn bushes may be all that is left of an English style boundary hedgerow; remnant fruit trees and bulb flowers suggest an abandoned farm settlement. Alternatively, there may be evidence of continuity: nineteenth century technology and land-use practices may still persist.

- **A landscape or a feature may be associated with a number of different themes, activities and historic periods.** The landscape or feature’s physical form may have been altered, or on the other hand, may have been left intact by these associations. In both these cases, a richer historic meaning remains, through this association adding historical depth and complexity to the landscape or feature.

- **Analysis requires comparing information from different sources:** using only one source may result in misleading or inaccurate conclusions.

- **You should note down any aspects that remain unaddressed, and record any queries or doubts that you might have about your findings and conclusions.**

Example: Landscape analysis of the Orroral Valley

A study of the cultural landscape of the Orroral Valley by Brian Egloff contains a good example of a cultural landscape analysis. It demonstrates the use of historic research and field survey to identify cultural and natural elements, and illustrates how this helps ascribe features to periods and uses. It also shows how the landscape derives its meaning and power from the relationship between the components. It reads in part:

\[\text{Landscape values in the Orroral Valley are enhanced by the contrast between the naturally wooded rugged heights which encompass the valley and the anthropogenic (of human origin) grasslands of the valley. Ridges that enclose the valley provide a sense of seclusion which is reinforced by the solitary homestead complex (1860s). The presence at the Orroral Valley Satellite Tracking Facility of a cultivated setting that incorporates exotic plants offers an interesting statement of landscape values which prevailed at the time the station was constructed. Exotic species contrast with the natural vegetation and provide a micro-urban setting within the rural and natural scene (Egloff 1988:22).}\]
4.3 Assessing the significance of cultural landscapes

Once the information accumulated during documentary and field research has been analysed, you are in a position to assess the significance of the cultural landscape. Basically, this involves seeing how the most important features and characteristics of the cultural landscape compare with those of other places, when measured against a particular set of criteria, or indicators of significance.

It is important to note from the outset that significance is always assessed independently of management considerations, such as whether the cultural landscape can be conserved, whether it is threatened, or whether or not there are funds for its management. A cultural landscape containing crumbling earthen structures that cannot be preserved may be far more significant than one with stable, well-preserved features and a healthy management budget.

4.3.1 What is significance?

The Burra Charter defines significance as follows (Australia ICOMOS 1992:73):

- Cultural significance is the aesthetic, historic, scientific or social value for past, present or future generations.
- The places that are likely to be of significance are those which help an understanding of the past or enrich the present, and which will be of value to future generations.

For our purposes, an Alps parks cultural landscape will have cultural value if it can demonstrate sufficient physical evidence or association, supported by documentary evidence, that:

- provides a tangible link with the broad themes of Alps history, and/or
- assists in the analysis and understanding of these Alps themes.

4.3.2 Criteria for the assessment of significance

Before assessment of significance can be undertaken, a set of criteria must be established. Landscapes and landscape features can then be checked against each of these criteria, and the extent to which they meet each criterion evaluated. Note that some criteria may be considered to be more important than others. More important criteria can be given a weighting.

The Burra Charter, the Australian Heritage Commission and the state heritage agencies and Parks Services have all developed criteria and guidelines for the assessment of significance. The Burra Charter defines the values comprising ‘cultural significance’ as (Australia ICOMOS 1992:73):

- **Aesthetic value:** including aspects of sensory perception, measured by qualities such as form, scale, colour, texture and material of the fabric (ie the physical evidence of the landscape).

- **Historic value:** relating to how a place has influenced or been influenced by an historic figure, event, phase or activity, or whether it was the site of an important event. Historic significance is greater where evidence of the association is stronger, eg through survival of evidence in good condition.
• **Scientific value:** reflecting the importance of the data involved, its rarity, quality, or representativeness, and on the degree to which the place may contribute further substantial information.

• **Social value:** embracing the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment to a majority or minority group.

The Australian Heritage Commission also has criteria defined in its legislation for assessing places for addition to its Register. There are a wide range of criteria; the following relate to cultural landscapes (the numbers, which appear in the legislation, allow the criteria to be identified in shortened form):

- Association with events, developments or cultural phases which have had a significant role in the history of the nation, state, region or community (eg village sites and exotic plantings associated with Snowy Mountain Hydroelectric Scheme migrant workers). (A4)

- Demonstrates rare, uncommon or endangered way of life, custom, process, land-use, function or design (eg transhumance - seasonal herding of cattle to follow pastures). (B2)

- Has research potential, yielding information that will contribute to a wider understanding of the history of human occupation of Australia (eg Maisie Fawcett's grazing exclusion plots). (C2)

- Demonstrates the principal characteristics of a range of human activities in the Australian environment (eg Pretty Valley). (D2)

  Exhibits particular aesthetic characteristics valued by a community or cultural group (eg Kosciusko summit area). (E1)

- Demonstrates a high degree of creative or technical achievement at a particular period (eg Eucumbene Tunnel - Snowy Mountains Hydroelectric Scheme). (F1)

- Has special associations with a particular community or cultural group for social, cultural or spiritual reasons (eg cattlemen's huts). (G)

- Has special association with the life or works of a person, or group of persons, of importance in Australia's history (Kosciusko area's association with Strezlecki). (H)

Other values contributing to the significance of cultural landscapes have been proposed, including interpretative value, associative value and integrity of landscape fabric (Taylor, 1995:34). Diversity (the range of features and meanings represented) is also recognised as important (Paterson and Colby, 1989:41).

The integrity of a cultural landscape is the degree to which the landscape retains intact evidence from past historic periods. Note that many landscapes are important precisely because they have continued to evolve, leaving traces of different phases of occupation. Mining landscapes are a good example. Defining the degree of integrity can sometimes be difficult.
Thus the main 'measures' that can be used to judge whether a landscape or landscape feature possesses enough of a particular value to be significant include:

- rarity or uniqueness
- representativeness
- continuity of past and present
- integrity of fabric and the relationships between components
- interpretability
- level of technical achievement
- association (with important person or group or event)
- closeness and duration of association with event or theme
- best expression of the type
- how seminal or formative the activities, events, associations, and techniques evident in the landscape were
- relative age
- symbolic importance
- diversity represented in the landscape

4.3.3 Values and measures of significance for Alps parks landscapes

Reflecting the fact that the natural, scientific, aesthetic and recreational qualities of Alps parks landscapes have their own mechanisms for protection and management, our focus is mainly on historic value associated with these qualities. The Burra Charter itself notes that 'historic value encompasses the history of aesthetics, science and society, and therefore to a large extent underlies all of [these].’ (Australia ICOMOS 1992:73). The 'measures' described above can be used to assess the quality of the values attached to a place. Apply the AHC criteria where it is appropriate to your cultural landscape or feature.

Whatever values, criteria and measures you decide to use in your assessment, make sure you explain which ones you are using in your assessment.

It is essential that the assessment of Alps parks cultural landscapes and features moves towards using a standard set of values, criteria and measures. This will require co-ordination and agreement among Parks Service history and heritage sections, and will need to be consistent with broader Parks Service assessment procedures. [Management recommendation]
4.3.4 The comparative nature of significance

The idea of significance is by nature comparative. For instance, consider if everything was ‘significant’: the concept would be of no value in guiding our actions, as it would not help us direct scarce resources to the most important landscapes and features.

Thus we need to compare the landscapes and features we are studying, with other landscapes elsewhere in the Alps. Drawing comparisons may be possible if extensive studies of landscape or feature types have been done. For instance, there are exhaustive studies of huts in Victoria, the ACT and New South Wales. However, as yet no integrated, Alps-wide studies of cultural landscapes or features have been undertaken. We need these comparative studies for all Australian Alps themes and features, before we can make really accurate assessments of the significance of Alps cultural landscapes. These assessments must be co-ordinated across all Alps National Parks, using the same, or at least compatible, values, criteria, procedures and database formats. [Management recommendation]

People assessing significance need to have some experience in comparative examples or case studies - obviously, the more extensive the experience and knowledge of the type of landscape or feature, the better. If you know all the mining sites in your area, and are confident that you have done the survey, historical research and analysis thoroughly, you may be in the best position to assess the comparative significance of these mining sites. However, the comparison would extend only as far as your area or your knowledge reaches. If you lack Alps-wide experience and knowledge, you will need to get assistance from your Park Service’s history or heritage section, or engage an historian or consultant with appropriate expertise. Reports and studies, if they exist, may be able to help you reach more general conclusions about comparative significance.

4.3.5 The scale or scope of the significance assessment

Significance can be assessed at the local, regional, state, Alps, national or international level. This depends on the scope and purpose of the study, the expertise of the assessor, and the availability of information on which to base comparisons. It is essential to note the scale at which you are assessing significance in your report.

Note that regional, state and national themes may be expressed in Alps landscapes, just as often as specifically Alps themes are. In this case, the scope of your comparative assessment will extend beyond the boundaries of the Alps Parks.

A landscape is made up of many components. As landscape features themselves possess significance, a thorough analysis and assessment of their value must also be undertaken, as part of the overall evaluation process. Cultural landscape significance assessments may therefore contain an assessment of individual components, as well as an assessment of the overall landscape significance. Don’t forget, however, that the significance of the landscape reflects not just the sum of the individual parts, but rather the landscape as an integrated whole. It is the nature of the relationship between features, and between features and the broader landscape setting, that is most important.
4.3.6 Significance as the basis for management

The significance of a place determines the appropriate conservation policy and management approach. Without a proper assessment of significance, vital elements of meaning may be damaged or lost altogether through inappropriate treatment. Examples of this are rife - far too often, management dollars are spent in retaining aesthetically appealing, or recreationally popular cultural landscape features, leaving the more significant 'ugly ducklings' to the ravages of decay. Worse still, in the absence of full knowledge of their value, these 'ugly ducklings' may be removed altogether, either inadvertently during the course of road or carpark construction, in the interests of maintaining a 'neat and tidy' landscape, in the reduction of 'fire hazard', or in the name of maintaining 'public safety'.

4.3.7 Points to note in the assessment of significance

When assessing significance of Alps Parks landscapes, always bear in mind the following points:

- Different layers of meaning in the landscape (for example, features or relationships representing particular themes and historical periods) will have different levels of significance. The overall significance of the landscape may reflect the significance of the most important physical feature, theme or historical period represented, or it may be a composite rating based on the significance of a number of layers.

- The multilayered nature of significance associated with cultural landscapes has been noted above. Whatever you conclude the primary significance of a place to be, all other aspects of significance should be considered and noted in your assessment.

- Landscapes may have cultural significance even though they appear unattractive or quite ordinary. For instance, they can be representative of a particular land-use or way of life, rather than rare or unusual examples of their type.

- Assessing cultural value is rarely clearcut or objective, because the concept is loaded with cultural assumptions and interpretations (for instance, whose values should be taken as the standard?). Problems associated with this subjectivity can be minimised by clearly stating what values and criteria you are using, so that others can at least understand the basis on which the evaluation was made - even if they don't agree with them!

- The validity of the judgements in assessing significance will depend upon the care with which the information is collected, and the reasoning applied to it. Thus the more thorough the historical, documentary and field research, and the more effective the analysis, the more you are likely to come up with an adequate assessment of the significance of a place.

- You should state your conclusions regarding the significance of the landscape and the meanings attached to it, and why you have reached these conclusions.

- Any unresolved aspects in assessing significance should be identified, such as uncertainty in ascribing a landscape feature to a theme, or doubts in the strength of association that an important person may have had with a place.
4.3.8 The importance of assessing significance

Assessing significance is important because it:

- Focuses attention on the historic values of the landscape - the process of research, analysis and assessment is in fact the 'making' and writing of landscape history.

- Forms the basis for conservation policy and management of the landscape.

- Allows scarce resources to be concentrated on management, conservation and interpretation of the most important landscapes and features.

- Assists in decision-making. For instance, in times of emergency such as fire, having information on the relative significance of places allows effort to be directed to protecting the most significant landscapes and landscape features.

- Assists in justifying applications for funding for management of cultural landscapes and their features.

4.3.9 Statement of significance

After going through the assessment process, you will need to state quite clearly the significance of the place and its features. The statement of significance must summarise key points from the analysis phase so that a conservation policy can advise what aspects and components should be protected, including both natural features and constructed forms.

Appendix One gives two examples of cultural landscape assessments and statements of significance - for Currango Homestead and landscape, and for Kiandra - demonstrating the above principles.
Part 5

Preparing landscape conservation policy and strategy
Once the cultural landscape and its features have been analysed and assessed for significance, decisions can be made regarding their conservation. The appropriate approach to conservation management will be determined by the significance of the landscape and its features, their condition, and their conservation requirements, as revealed by research and analysis.

5.1 Conservation treatments for cultural landscapes and their features

A number of conservation treatments are set out in the Burra Charter, for the conservation of places with cultural significance (Australia ICOMOS 1992:47-60). These also apply to the conservation of cultural landscapes and their features. You will need to decide which treatment (or treatments) are appropriate to your situation.

- **No action:** take no action to intervene - but make sure to thoroughly document the existing condition of the landscape or feature.

- **Preservation:** maintain the fabric (ie the physical material) of a place in its existing state, by taking action to retard further deterioration.

- **Restoration:** return the existing fabric of a place to a known pre-existing condition, without the introduction of new material. (Reassembling of original materials in situ is acceptable although difficult; removal of additions is a more common practice).

- **Reconstruction:** return the place as nearly as possible to a known earlier state, with the introduction of new materials into the fabric. This is not to be confused with either recreation (rebuilding a missing landscape component or structure totally anew), or reconstruction to a preexisting condition that is only guessed at rather than based on firm evidence. It is doubtful whether recreation would be acceptable in Alps cultural landscapes; reconstruction based on conjecture is certainly to be avoided.

- **Adaptation:** modify the place to enable a proposed compatible use to take place. 'Compatible use’ refers to uses which involve no change to the culturally significant fabric; uses which involve changes which are substantially reversible, or uses in which changes involve only a minimal impact. (see Australia ICOMOS 1992:22,35-37)

The cultural landscape is made up of the individual features that occur within it, the relationship between these elements, and the relationship between the elements and the broader landscape. All of these components of the cultural landscape require management, whether broadacre landscape processes or smaller scale features.

Different components of the cultural landscape will almost certainly require different treatments. Thus you will not be required to choose one or other of the above, but rather a range of treatments, applied to different components at different scales, perhaps at different points in time. In the case of the alluvial mining landscape of Oriental Claims, for instance, all treatments could be applied.

Note that the objective is not necessarily to 'freeze' a landscape in time. Although there may be some landscapes or features where it is desirable to preserve evidence of the past as intact as possible, new uses can be introduced into many landscapes. In fact, this can add to the complexity and richness of a
place, by allowing the process of cultural landscape evolution to continue. It is essential, however, that these new uses are compatible, and that the changes do not detract from or overwhelm the significance and pre-existing layers of meaning.

5.2 Conservation policy

You will need to make decisions about the appropriate treatments for your cultural landscape, and present your conclusions in the form of a conservation policy. You should approach the development of conservation policy in a logical fashion. Both the Burra Charter and Kerr's The conservation plan provide guidelines for the development of policy (Australia ICOMOS 1992:76-79; Kerr 1990:1416).

5.2.1 Background to conservation policy: constraints and opportunities

The information that you will need to consider for the development of conservation policy includes:

- **Requirements for the retention of significance**

You should identify any requirements for the maintenance of the cultural significance of the site. This follows directly from the statement of significance. For instance, the 'keystone' components of the place - that is, the components considered central to its meaning and significance - may be listed, and actions that are necessary to conserve them identified. Alternatively, actions likely to degrade their significance may be stated.

For instance, the conservation plan for Currango noted that 'no new structures should be permitted in areas which would compromise the visual integrity of the place.' (NSW NPWS n.d.:21). As another example, the draft conservation plan for Kiandra remarked that 'the significance statement attaches a high degree of significance to the natural environmental setting and the mining landscape,' and that the remaining buildings, as a complex, 'are integral to understanding the original townscape.' Therefore, 'Conservation policies [must] be directed towards preserving the existing aesthetic qualities of both the natural and cultural environment.'

- **Physical condition**

A reasonable knowledge of the physical condition and integrity of the landscape and its components is necessary, to identify areas which have high priority for action, and as a basis for selecting appropriate management options. Is a landscape feature degraded beyond redemption? How intact are structures? If they are ruined, are the components still present? Could the structure be reassembled? How effective would a treatment be, in conserving significance?

- **External requirements and constraints**

This includes statutory requirements under the various Commonwealth, State and Territory acts and regulations relevant to the landscape. Constraints imposed by the jurisdiction of other authorities may also operate, eg easements for electricity transmission, water harvesting, roading, etc. Other things to consider include building and health regulations, public safety regulations, vermin and noxious weed control, leases to private individuals or operators, fire management requirements and archaeological aspects. And of course, consistency with parks management plans is necessary. (Note that management plans may need to be amended or updated as cultural landscape conservation plans.)
are prepared, and more accurate information is obtained on significance and appropriate treatment.) [Management recommendation]

Community interests, involvements and expectations should also be considered at this point. This may include community sensitivities and feelings about the investigation and treatment of certain places. The needs of any continuing users of the place should be listed.

- **Resources**

The constraints and opportunities associated with resourcing the conservation management of the cultural landscape should be investigated and noted at this point. This includes funding, management issues and personnel requirements.

All the above should be researched and the relevant requirements or constraints recorded in your conservation management report. Perhaps under the title Background to conservation policy: constraints and opportunities'.

5.2.2. Developing conservation policy

In developing the conservation policy, it is necessary to assess all the information relevant to the future care of the place and its fabric. The conservation policy should cover the following (Australia ICOMOS 1992:76-79):

**Fabric and setting:** Identify the most appropriate set of conservation treatments (as described above) and actions to care for the fabric of the place. This will be determined by the significance of the place or feature, and any constraints that exist.

Use: Identify a feasible use or combination of uses compatible with the retention of the significance of the place. This may, for instance, involve estimating visitor numbers and impact thresholds, and sketching out an appropriate visitor programme for the place.

**Interpretation:** Where the landscape has high interpretive value, and where consistent with its conservation requirements, outline a method of revealing the significance of the place to the public, while still retaining its significance. For instance, this may involve treatment of the fabric to show historic meanings, use of the place in a way consistent with its original use, or the use of introduced interpretive material.

**Management:** Identify the appropriate management structure for implementation (see below 'Implementation').

**Control of physical intervention** in the fabric: Develop a set of procedures for controlling intervention in the physical evidence of the place. This includes specifying unavoidable intervention, identifying likely impacts of intervention on significance, stating how much intervention for non-conservation purposes is acceptable, and outlining any research proposals that will impact on the fabric. Note that there may also be cultural, social and religious reasons for not intervening in the fabric (see below). Intervention may be necessary as part of the conservation treatment, for interpretation purposes, during adaptation to a compatible use, or as part of a research project to reveal more information about the landscape or feature.
**Constraints on investigation:** Note anything that may limit investigation of the landscape or access to the place by researchers, workers and the public. For instance, there may be cultural, social or religious or ethical reasons that prevent this. Physical investigation of a cemetery, for example, would not be appropriate in most cases.

**Future developments** that are likely to take place: The conservation policy should look at possible future developments, eg in parks policy or management, and how these might impact on the landscape and its significance. You should aim for a flexible policy that can be adapted to changing conditions, while retaining the significance of the place.

**Adoption of the policy** and a process for its **periodic review:** To succeed, and before it can be implemented, the policy needs to be officially adopted as park policy - a means of achieving this must be included in your report. A review process is necessary, to ensure that adjustments can be made, in response to changes in conditions, alteration to other park policies, changes in funding level or use etc.

You should also consider the impact of implementing the policy on systems outside the boundary of the cultural landscape in question. For instance, will increased visitor numbers have a detrimental effect on natural or cultural systems nearby? Will exotic plants earmarked for retention invade adjoining bushland?

Appendix 2 provides examples of how two cultural landscape conservation plans present conservation policy information. Extracts are from the Kiandra Study (draft), and the Currango Conservation Plan.

**5.3 Implementation: the conservation management strategy**

Implementation of the policy requires a strategy for the conservation management of the landscape and its components (Australia ICOMOS 1992:79). This must consider:

- **Appropriate treatments and techniques**

  What specialist techniques are required, to maximise the conservation of significance of the landscape or feature, while minimising damage to the fabric? For instance, you may need a specialist conservation architect to suggest techniques for stabilising crumbling earthen structures. In some cases, technical problems may prevent a course of action, such as difficulty of moving equipment onto a site.

- **Financial resources required**

  How much money is required? Where will the funds come from? Can you get external funding for the project?.

- **Personnel required** - technical, specialist and works crews

  Who will do the detailed conservation works? Are works crews available? Do they have the skills? How can they be trained?
• **Sequencing of works**

In what order must the work be done? For example, must drainage works be completed, or burrowing animals be controlled, before foundations can be stabilised, or before erosion revegetation can proceed?

• **Timing of works**

When will the work be done? How long will it take? What is the right time of the year, with respect to climatic conditions, other work commitments, availability of works staff and specialist advisers, visitor pressures?

• **Impact of management actions on other park values**

Will other parks values be reduced or enhanced by the actions? Can these values be enhanced and negative impacts reduced, at the same time as undertaking the work? For instance, co-ordinating a vegetation management programme for the landscape with a weed control programme designed to protect the parks natural values may yield significant cost reductions for both.

• **Management responsibility for implementation**

Is there an adequate management structure for the implementation of the policy? Which sections of the organisation will be responsible, for implementing which parts of the policy? Who will oversee and co-ordinate the work? Who will monitor the impacts?

• **Provision for ongoing and cyclical maintenance**

Which are the essential components of the landscape that need to be maintained, what maintenance work will be required, and how often?

• **Ongoing estimates of budgetary requirements**

How much will be needed in the future, for regular management, maintenance and further development? Where will these funds come from?

• **Process for monitoring, implementation and evaluation of outcomes**

When and how will the programme be evaluated, and by whom? What about review, and ‘fine tuning’?

All specialist reports, such as a conservation study, or an exotic vegetation study, must be translated into management plans addressing the above points.

Note that some funding agencies for specialist studies, such as the Australian Heritage Commission or the Australian Nature Conservation Agency, may require monitoring of the implementation of study recommendations.
5.4 Preparation of conservation and management plans

Conservation plans and park management plans have traditionally been different types of documents.

Conservation plans usually contain a description and history of the place, an assessment and statement of cultural significance, and conservation policies based on analysing the existing condition, use, and significance of the place, and the management requirements of the significant components.

Management plans usually contain management objectives and strategies for resource conservation, park protection, visitor management and community awareness. Zoning plans, a table of authorised uses and an implementation schedule of works, costed and listed by priority, are also generally included.

You may undertake a conservation plan as an independent project, for instance with the assistance of external funding, or it may be prepared and presented in conjunction with a park management plan.

Flowchart 3: development of conservation policy and strategy

Step 2

- Background: identify constraints and opportunities
  - gather information in survey and documentation phase
  - identify physical condition of landscape and features
  - identify what is required to retain significance

Develop conservation policy
- select appropriate treatment for landscape and features
- consider use
- consider management structure
- consider future developments
- include process for adoption and review

Develop conservation strategy
- identify appropriate skills and techniques required
- identify resources required and sources of funding
- identify appropriate timing and sequencing of works
- identify possible impacts of treatments and works, devise a plan for their management
- include provision for ongoing maintenance
- estimate ongoing budgetary requirements and funding
- specify processes for implementation, monitoring and evaluation
5.5 Management at the landscape level

Management of national parks on the ground is based on units often defined on the basis of accessibility. For cultural landscapes in the Alps National Parks, consideration must be given to defining holistic landscape management units based on cultural landscape patterns. This will help to avoid the application of different treatments, standards and techniques in the same cultural landscape area, which could result in damage to or loss of some of the physical evidence.

Up to date, most of the focus in heritage conservation has been on the management of individual structures. As remarked earlier, cultural landscapes consist of broadscale landscape processes, landscape features, and evidence of the relationships between them. To retain meaning in cultural landscapes, all of these must be considered in conservation policy, strategy and management. It is essential to include broadscale landscape processes when considering the management of cultural landscapes.

5.6 Management of historic structures in the landscape context

Guidelines for managing historic buildings provide much advice on identifying, analysing and repairing construction details. There has been much less written on the management of structures within a landscape context.

This requires identifying the elements and characteristics that relate the structure to other features in the landscape, and to the broader landscape itself. This includes identifying linkages, such as historic access routes to a structure; understanding the topographic reasons for its siting; considering the importance of sight lines to and from it, and focusing on structures or features that relate it to other components in the landscape, for instance by virtue of common usage. On the basis of analysing this information, it may be necessary to restore or reconstruct access and sight lines to a structure, so as to reinstate its meaning in the landscape context.

5.7 Monitoring landscape changes, treatments, and impacts

Monitoring processes must be established, to chart the changes in both natural and cultural systems in the landscape over time. This allows you to detect any changes in the cultural landscape and its values that may occur, either as a result of natural processes, human use of the landscape, or as a result of the conservation treatment and management regime you have implemented.

The first step is to establish base level data, noting the condition and state of the components, such as extent and behaviour of natural and exotic vegetation, integrity of structures, and stability of soil. Regular inspections and follow-up using the same techniques will be required, at specified intervals. Techniques will depend on the components being monitored and the information to be obtained, as well as budgets and availability of monitoring staff and equipment. Techniques include photo monitoring points, vegetation quadrats, visitor counts and surveys. Techniques for the assessment of the condition of structures include the application of glass 'tell-tales' over cracks, and checking the state of roof plumbing and waterproofing. For the wider landscape, annual aerial photo coverage will reveal incremental change, such as the extent of disturbed ground due to feral horses, or the colonisation of open grasslands by woody shrubs and trees.
Alps Parks Services must co-ordinate their monitoring procedures, to ensure that the measurements used, techniques employed, data obtained, database formats and monitoring frequency are consistent, and therefore comparable. There may also be significant opportunities for cost savings, where expensive procedures such as aerial photography can be co-ordinated. [Management recommendation]

5.8 Recording of regular management practices in Alps National Parks

All landscapes in Alps parks may be considered as cultural landscapes, in that they are subject to management regimes that are determined by contemporary ideas of appropriate park management. To enable these processes of continuing landscape evolution to be studied, documentation of daily and routine activities is required for all actions, everywhere in the park - not just for identified or significant cultural landscapes.

Recording of everyday management activities will enable future researchers to understand the management activities that are shaping Alps parks landscapes today. These include factors such as roading practices (eg location, construction, and frequency of maintenance and use); waste management (location, treatment, and frequency of use of tip sites); frequency of ski slope grooming; vermin eradication; weed spraying; suppression of exotic wildings; removal of native vegetation for fire control, control of vegetation for landscape management or public safety reasons, and general fire management practices. Use the experience you gain from trying to interpret cultural landscapes yourself, and think what documentation and information would have helped you understand it and manage it appropriately. Remember that today's practice is tomorrow's history, and next week's archaeology! Do the next generation a favour, and record what you do.

Regularly filling in a standard activity report form will enable monitoring of these park management activities to occur. It will also enable a comprehensive GIS record to be prepared, mapping the occurrence of these activities over time.

Monitoring of all park landscapes should occur regularly with respect to environmental changes and the impacts of management actions. Aerial photography can provide widespread coverage of a landscape. Regular interpretation should be undertaken to detect subtle and long-term changes, as well as the impact of catastrophic events such as bushfires.

5.9 When to seek assistance

Landscapes contain many complex features of both natural and cultural origin. It is rare for one person to possess all the necessary skills for their comprehensive research, analysis and assessment. It is likely, then, that you will need assistance at some stage, in analysis, assessing significance, and making decisions about conservation policy and management.

Be aware of your lack of specialist knowledge, and know where to go for assistance. The type and level of assistance needed will depend on the project undertaken.
Sources of assistance and information on how to find it include:

- Your Park Service history or heritage section. This should always be your first contact. They may be able to assist you directly with field surveys, documentary research, analysis, assessment of significance and conservation advice, or they may be able to recommend a consultant.

- Professional associations of historians and archaeologists should be able to provide you with a list of consultants specialising in your area of interest.

- Community groups may possess knowledge and skills that could be engaged. For instance, the Kosciusko Huts Association has a great deal of expertise in the area of Alps huts, their history and their conservation.

- Check directories of historical and heritage services and consultants, such as the New South Wales Heritage Council’s ‘yellow pages’ book.
Part 6
Management issues of special interest
6.1 The management of exotic vegetation 6.1.1 Background

Exotic vegetation is present in many alpine environments as a result of deliberate introductions, or due to naturalisation. In some cases, exotic vegetation may be the only evidence that a site was once settled.

6.1.2 Types of exotic vegetation occurring in landscapes

Types of exotic vegetation occurring in cultural landscapes include: ornamental garden plants, specimen trees, vegetable plants, herbs and medicinal plants, fruit trees, avenues, park trees, street trees, shade trees, windbreaks, soil conservation plantings, stream and river management plantings, landscape plantings, landmark plantings, hedges, memorial plantings, arboreta, forestry plantations, wildings.

6.1.3 Management considerations

The management issues associated with exotic vegetation are complex. The presence of exotic vegetation can have both positive and negative impacts on cultural values as well as other parks values.

Negative impact of exotic vegetation on cultural values:

- Roots and trunks may disturb structures and foundations.
- Limbs and trunks may fall and damage structures.
- Vegetation that is close to structures may increase the risk of damage by fire. (This depends on the type of vegetation eg conifers with high oil and resin content carry a higher fire risk than deciduous, broadleaved species.)
- Structures may be smothered and dismantled by vegetation.
- Oversized vegetation can interfere with the intended scale of the landscape (eg trees planted next to a house may have grown far larger than was originally intended, and may now dwarf the structure and other features).
- Vegetation may shade structures, increasing dampness and thereby increasing the rate of degradation.
- Vegetation may alter the moisture content of soil adjoining or underlying structures, resulting in movement of foundations, walls etc.
- Vegetation may obstruct views and sightlines into, out of and within a landscape.
- Vegetation may suppress other nearby vegetation through shading, smothering and competition.
• Wildings may spread beyond the intended site, and thereby alter the layout of the original planting scheme.

• The interpretive value of an area may be reduced by vegetation covering and obscuring important features.

**Positive impact of exotic vegetation on cultural values:**

• The vegetation may have cultural significance

• The vegetation may be important in determining the character of the landscape.

• Exotic plants may serve an important interpretive function.

• Vegetation may protect structures and other features from vandalism and souveniring by smothering and hiding them.

• The proximity of certain forms of vegetation to structures may decrease fire risk (e.g., broadleaved deciduous species).

• Exotic plants may stabilise and protect landscapes and their features through reducing land degradation processes such as erosion.

• Shading and sheltering by exotic vegetation may protect some landscape features from degradation.

**Negative impacts on other park and landscape values**

• Displacement of indigenous vegetation may occur, e.g., through competition; that is, exotic plants may behave as weeds.

• Exotic vegetation may offer fewer habitat opportunities for native fauna than indigenous vegetation.

• Exotic vegetation may alter hydrological conditions.

• The presence of exotic vegetation may reduce wilderness values.

• Exotic vegetation can alter the appearance and aesthetic quality of landscapes in undesirable ways.
Positive impacts on other park and landscape values

- Exotic vegetation may provide some habitat opportunities for native fauna.

- It may offer some landscape protection values, eg through stabilising and protecting soils and landforms from erosion.

6.1.4 Guidelines for assessing the significance of exotic vegetation

Use these points as a guide for assessing the cultural significance of vegetation in the landscape. Answering 'yes' to one or more of these questions suggests that the vegetation has significance.

- Are the plants important elements of the cultural landscape?

- Are the plants associated with a particular person or event or historic period of note? How close was this association?

- How closely do they relate to other elements in the cultural landscape?

- Are they the result of deliberate planting, rather than naturalisation or the result of chance events?

- Do they demonstrate or aid the understanding of Alps or wider historical themes?

- Are the plants rare? eg fruit trees or hybrid roses that are no longer available in nurseries?

- Are they particularly good examples of their type? eg especially old, large, well-formed, unusual form, high aesthetic value etc?

6.1.5 General guidelines for the management of exotic vegetation

- Document and record the exotic vegetation of the site, including species, condition, age, relationship to other landscape elements (particularly character-defining and significant elements), behaviour, ecological characteristics, tendency to naturalise.

- Assess the contribution of the plant to the cultural values of the landscape. This includes assessing the significance of the plant, and its contribution to the cultural character of the landscape. Plants with high significance should be considered for retention.

- Assess the contribution of the plant to the protection or enhancement of other landscape values. A positive contribution favours retention.

- Assess the weed potential of the plant, in the environment in which it occurs (eg refer to Carr et al 1992; Berry & Mulvaney 1995). (Weed potential is the tendency of the plant to naturalise and invade disturbed or undisturbed ecosystems.) The greater the weed potential, the more risk it poses to cultural and natural park values, and the greater the need to manage the plant. Removal should be considered as the preferred management option for controlling the spread of weedy species. Where significance of vegetation is high, however, removal may not be appropriate.
Assess the negative impact of the plant on cultural and natural landscape values. For instance, does the plant displace indigenous vegetation, or is it threatening structures through the action of roots on foundations, increased fire risk, or dropping of limbs? You should consider removing plants with potentially high negative impacts.

In some cases, assessing the human intention behind a plant’s presence may help you choose an appropriate management action. Is the plant’s location the result of deliberate human action, or is it there through a chance event, such as the tossing of an apple core, or through weed invasion? Note however that chance occurrences of plant materials can contain important historical information and may be culturally significant. For example, a localised occurrence of exotic pasture grasses may be the only evidence that horses were fed at a particular spot, perhaps revealing things about the way people moved within that landscape. On the other hand, an apple tree in an eroded gully in a mining landscape is likely to be the result of a chance event of little significance - the casual tossing of an apple core - and is therefore less likely to be significant. Research and study of the place and its plants should help you here.

Select a management treatment for vegetation that is consistent with objectives for the management of the cultural landscape as a whole.

- Assess the probable impacts of the management action you are proposing.
- Record your action and give the reasons why you have selected this course.
- Minimise actions that are irreversible, ie avoid actions that mean the place or feature cannot be returned to the original state. (Relocation and preservation of plant material off site reduces irreversibility.)
- Establish an ongoing monitoring programme, by documenting the existing condition and status of the exotic vegetation, and assessing the impact of any action you take over time.
- Monitor the invasive potential of plants, through mapping of seedlings, monitoring over time using fixed photopoints, aerial photographs or vegetation mapping based on ground survey.
- Where significant exotic vegetation cannot be retained on site, for example due to their invasiveness or vulnerability, consider the retention of plant materials offsite (eg storing seeds, planting cuttings in the office garden etc)
- If you decide to retain potentially weedy/invasive species for their cultural landscape significance, an amount sufficient to pay for ongoing removal and suppression of wildings offsite must be budgeted for. Generally this will be required on an annual basis. Note that this will be required for as long as the potentially invasive plants are retained in the landscape and as long as they remain reproductively active.
- Where culturally significant exotic vegetation has a high weed potential, consider replacing it with a variety of the same species with low weed potential. For instance, infertile varieties may be available. Otherwise, replace with a low weed-potential species of similar appearance and character (be sure to consider cultural meanings and affinities here).
6.1.6 Guidelines for the management of desirable exotic vegetation

- Prune to stabilise plants and ensure health, if necessary.
- Prune or replace oversized or 'overscaled' vegetation
- Shape plants to intended shape.
- If consistent with management approach selected (see Section 5.1 on conservation treatments), apply appropriate horticultural treatment to aid health and vigour of plant.
- If consistent with management treatment for the landscape and features, replace oversized, dying, diseased, damaged, unstable plants, with material from the same plant, or the same species. If appropriate, replacements should be planted in the same position.

6.1.7 Useful references


6.2 The management of indigenous vegetation

6.2.1 Background

Indigenous vegetation is a major component of almost all Alps cultural landscapes. It may possess cultural significance itself, as well as helping maintain the landscape through providing 'environmental protection' functions such as soil stabilisation. Furthermore, the management of the biological conservation values of indigenous vegetation is itself an objective of Alps Parks management.

In many cases, the management of Alps cultural landscapes will require the active management of indigenous vegetation, for instance through encouraging the revegetation of unstable, eroding sites, or through discouraging the recolonisation of open spaces by trees and shrubs in cultural landscapes.

6.2.2 Management considerations

Positive implications:

- Indigenous vegetation forms an integral part of most Alps cultural landscapes.
- It may have significant biological conservation values.
- It performs a number of important environmental protection functions that may be vital to conservation of the landscape eg by guarding against soil erosion.
- Conservation of indigenous vegetation is a primary objective of National Parks management.
- Regeneration and vegetation change is a natural process demonstrating the dynamic nature of landscape.

Negative implications (these are similar to those for exotic species, listed above)

- Indigenous vegetation may degrade cultural landscape values by damaging structures eg through limbs falling onto structures, lifting foundations, facilitating degradation through shading etc.
- It may degrade cultural landscape values through recolonising cleared areas.
- It may increase the fire risk around significant structures or other landscape features.
- It may reduce the interpretive value of the landscape, through obscuring important landscape features with high interpretive value.
- Regeneration of indigenous vegetation may obstruct significant views within, into and out of a cultural landscape.
- Regeneration may dramatically change the appearance of a cultural landscape.
6.2.3 Guidelines for assessing the significance of indigenous vegetation

Answering ‘yes’ to one or more of these questions indicates the vegetation has significance.

- Does the vegetation have cultural landscape significance? eg were trees deliberately retained since European settlement, did they serve a purpose such as providing shade, protection from the weather, hanging slaughtered stock, defining a property boundary etc?. Other questions to ask to assess cultural significance include:

  Is the vegetation associated with a particular person or event or historic period of note? How close was this association?

  How closely does it relate to other elements in the cultural landscape?

  Does the vegetation demonstrate or aid the understanding of Alps or wider historical themes?

  Is the vegetation a particularly good example of its type? eg especially old, large, well formed specimens, unusual form, high aesthetic value etc?

Also see Section 4.3 - assessing cultural significance.

- Does the species have biological significance eg are the species or the vegetation community rare, threatened or endangered? (refer to publications such as Leigh et al 1984, Gullen et al 1990). Does it support or contribute to the survival of other rare floral or faunal species, for instance by providing habitat?

- Does the vegetation fulfil important landscape protection functions?

6.2.4 General guidelines for the management of indigenous vegetation

- Assess significance of cultural landscape and landscape features. The more significant the landscape and its features, the more attention must be given to conservation of cultural landscape values in management.

- Assess the natural significance of indigenous vegetation. The higher the significance, the more important it is to manage the landscape for indigenous vegetation values.

- Where natural and cultural landscape conservation values conflict, compare the relative significance values of the indigenous vegetation versus the cultural landscape values, and use this as a guide for decision-making and conservation planning and management. For instance, where indigenous vegetation with low significance degrades cultural landscape values with high significance, then action to manage the vegetation to protect the cultural landscape features should be taken.
• Investigate the relationship between indigenous vegetation and cultural landscape features, as a guide to managing vegetation impact on particular components. For instance, what features are most important in shaping or defining the character of the landscape? In pastoral landscapes, open fields may be important. Is natural regeneration occurring in these areas? Will these features be degraded as a result of revegetation? This should be included in the section on 'Condition assessment' of the landscape and its components, in the conservation plan.

• Management of indigenous vegetation must be consistent with the management objectives for the landscape, developed as part of the conservation management plan (see section 5.1 on conservation policy and strategy).

Assess condition of vegetation, in regard to health, vigour, ecological behaviour, etc. This includes an assessment of the rate of recolonisation of cultural landscapes and landscape features eg open fields. This can be done through monitoring plant recruitment, for instance by undertaking seedling counts and mapping, monitoring the landscape over time using fixed photopoints, or interpretation of aerial photographs.

• Natural revegetation of cleared areas in cultural landscapes provides an important opportunity for interpretation, demonstrating the dynamic quality of landscape evolution.

• Where culturally significant areas of open space are being actively recolonised by indigenous vegetation, significant or representative areas may be selected for active management, leaving the balance to revegetate naturally. In this situation, the process should be interpreted.

• Ongoing control of natural regeneration will require planning and budgeting for an annual vegetation management programme.

• Only locally indigenous species grown from local plant materials should be used in revegetation of cultural landscapes in Alps National Parks (except where exotic plant materials are required for maintaining cultural landscape values).

6.2.5 Guidelines for the management of desirable indigenous vegetation

• Natural revegetation processes should be allowed to proceed undisturbed, unless there are strong cultural landscape conservation reasons for its control.

• Provide interpretation of natural regeneration processes occurring in cultural landscapes.

• Where desirable vegetation threatens significant features, it should be treated eg by pruning to minimise the risk of damage.

• Normal vegetation management principles apply eg application of appropriate burning regimes, weed control, etc.
6.2.6 Examples

Revegetation of Franklin chalet ski runs.
Ski runs were cut on Mt Franklin in the 1930’s, by members of the Canberra Alpine Club. These are now important features of the Mt Franklin cultural landscape. However, the runs are being recolonised by indigenous woody species, such as Snow Gum (Eucalyptus pauciflora). The conservation plan for the site specifies that the most significant ski run will be maintained in its original form, through control of regeneration, while the others will be allowed to revegetate naturally. This process will be documented, and interpreted to the public.

Revegetation of Currango homestead site
Natural regeneration is encroaching on the open area surrounding the homestead. Given the significance of the site, the character-defining nature of the open spaces and the commonness of the recolonising species involved, the indigenous vegetation should be controlled in this area. Likewise, as historic research and documentation indicates that this area was once clear, a visual connection with the open plain below should be maintained. This would have been important from the point of view of stock and land management, and to give the occupants advance notice of arriving visitors, by allowing visual inspection of the plains. The connection is also important for interpretive reasons, as the existence of the settlement was dependent on this extensive, naturally open pastoral landscape of the plains.

Note, however, that many original settlements and buildings were placed amongst trees to provide protection from wind and cold. The Currango homestead is probably no exception. Historic research is required to provide a guide in this case, such as the comparison of present condition with old photographs, the examination of other documentation, and taking oral historic evidence from previous occupants or visitors.

Revegetation of Island Bend
Island Bend is a former settlement in the Snowy Mountains, that housed people working on the hydroelectric scheme. The buildings have been removed, and only footings and asphalt roadways remain. Remnant exotics such as Firethorn (Pyracantha) are highly invasive. The site is at risk of both weed invasion and, in the short-term, soil erosion. Locally indigenous species are being planted to actively regenerate and stabilise the site. Certain areas should be retained as an historic record, and for interpretation purposes.

Hairy anchor plant Discaria pubescens at Orroral Valley.
The nationally rare plant Discaria pubescens occurs in open pasture only 200 metres away from Orroral Valley shearing shed. Both these features are highly significant. This landscape should be managed for both the significance of its indigenous vegetation and for its cultural landscape values. Luckily, the plant seems to have survived in this highly modified location for some time, despite being sensitive to grazing.

Obscuring of culturally significant views by regenerating vegetation
One of the most famous features in Yosemite National Park in the United States is the towering, rocky peak known as El Capitan. People who have not seen it in the flesh would be familiar with it through the work of the landscape photographer, Ansel Adams. Commenting recently on a photograph he took some years ago from the one of the classic El Capitan viewing sites, Adams
remarked that this view could no longer be had, as 'most of the grand vistas have since been lost to forest cover'. There is an argument for keeping open significant views such as this. On the other hand, allowing natural processes to run their course, while obliterating some views, will create new vistas. These, no doubt, will be discovered and photographed in their turn by some future Ansel Adams.

Useful references

Hawker, J in Sagazio, C. The National Trust Research Manual National Trust of Australia (Victoria)


Gullen, P. K.; Cheal, D. C.& Walsh, N. G. (1990) Rare or threatened plants in Victoria Department of Conservation and Environment, Melbourne
6.3 Management of animals in Alps cultural landscapes

6.3.1 Background

Both indigenous and exotic animals occur in cultural landscapes. In many cases, their presence requires careful management. Management options range from removing particular animal species completely, to manipulating populations and behaviour to achieve a desired end, through to permitting animal activity to continue unaltered.

The management of animals in cultural landscapes is related to other management decisions, such as deciding whether or not to allow continuing use in selected areas, the maintenance requirements of certain features such as old pastoral properties, and the impact of these activities on other primary parks values. The issue is also likely to be contentious and prone to politicisation, due to the number and type of user groups involved, and differing public perceptions of the issue.

Note also that the management of indigenous animals in cultural landscapes also needs to be addressed, as they too may require intensive management. The management of kangaroo populations on abandoned pastoral stations is a case in point.

6.3.2 Management considerations Positive implications

- Animals may contribute to the cultural significance of the landscape - eg pastoralism was the primary activity giving rise to many important Alps cultural landscapes, such as pastoral stations and features including stockyards and fences, and horses were used as the primary form of transport in the early days of settlement and development.

- Continuing use of Alps parks landscapes by established user groups, such as continued access to bush and alpine grazing lands, may have cultural significance as well as interpretive and recreational values.

- Animal activity may be important for maintenance of cultural landscape features, such as open pastoral landscapes.

- Conservation of indigenous animals is a primary objective of Alps National Parks management. Negative implications

- Damage to other primary values present in parks landscapes, such as protection and conservation of flora and fauna, soil, water quality, aesthetic quality, wilderness values.

- Possibility of damage to cultural landscapes and landscape features - eg undermining of structures and building foundations (wombats and rabbits), impact on natural and exotic vegetation through trampling and grazing, exposing soil causing erosion and destabilisation of sites.
Other

- User groups may be disadvantaged by management decisions to restrict continuing uses eg cessation of cattle grazing licences.

6.3.3 Guidelines for the management of animals in cultural landscapes Deciding whether to keep or remove animals:

- Document and record present animal activity and its impacts (note both positives and negatives). For example, kangaroos may maintain pastoral character but may cause damage through overgrazing.

- Assess cultural significance of animals in the landscape, from the point of view of
  - Contribution to creation of cultural landscape and its features eg establishment of pastoral properties, creation and maintenance of open fields for grazing.
  
  - Cultural value associated with the continued use of the landscape by animals eg alpine grazing, brumby running. Are these activities and values restricted to the park, or do they occur commonly elsewhere? The more restricted these uses are to the Alps, the higher their cultural value is.

  - Historic values of the animals present eg the presence of old breeds may be significant.

  - Significance for parks visitors (eg birds are an attraction at Mt Buffalo; associations with pastoral history).

The greater the cultural value, the stronger the argument for retaining animals and associated practices in the landscape.

- Assess nature conservation values of animals in landscape. Feral and introduced animals will have less value than indigenous species, while common indigenous species will have less value than uncommon, rare or endangered species.

- Assess the negative impact of animal activity on cultural landscape values. The greater the negative impact, the stronger the case for removal (eg wombats digging up Kiandra cemetery).

- Assess impact of animal activity on other parks values, including flora and fauna, soil, water - is it ecologically sustainable? Consider the long-term effects on biodiversity, the survival of indigenous species, the protection of soil, water quality etc. For example, cattle trampling may destroy sphagnum bogs and cause serious erosion in Alpine conditions. The greater the negative impact, or the lower the ecological sustainability, the more removal or control of the exotic species is indicated.
• Assess the contribution of animal presence to the maintenance of the cultural landscape and its features (eg open grazing paddock, abandoned bridle trails maintained by brumbies). Many pastoral landscapes require continuation of grazing in some form to retain their pastoral character.

• Assess contribution of animal presence to maintenance of other parks values. Where the contribution is significant, retention of the animal is indicated.

• Assess consistency of exotic animal presence with parks objectives, as set out in acts, regulations, policies and procedures manuals, and management plans. The less consistent, the more removal is indicated.

Where it is considered appropriate to remove animals:

• Where animals are to be removed, assess the feasibility and costs of control and removal.

• Investigate alternative methods for maintenance of cultural landscape or landscape feature, with respect to feasibility, cost, resources, results. For instance, can kangaroos be used in place of cattle to maintain grassland communities and pastoral landscapes? This may require research of the scientific literature and perhaps experimentation.

• Establish a monitoring programme to review the effects of removing the species. Where animals are to be retained in the landscape:

• Evaluate the management requirements of continued exotic animal presence in the landscape eg management costs, rehabilitation work required, supervision, monitoring, administration etc. A management programme should be prepared, and funded on an ongoing basis.

• Establish a monitoring process to evaluate the impact of animals in the landscape over time. It is advisable to seek the assistance of expert Parks Service staff in the design of monitoring programmes.

General Guidelines:

• Document and record any decisions to change animal management regimes in cultural landscapes. Include the reasons for the decision.

• Monitoring of animal activity (both exotic and indigenous), should be part of any general cultural landscape management or monitoring programme.

• Interpret the role of animals in cultural landscapes to the public. Where it is decided to remove exotic animals, interpretation may be used to offset the loss of meaning associated with the cessation of established practices.
Remove or control animals | Retain animals
--- | ---
- low contribution to cultural landscape formation | high contribution to cultural landscape formation
- low contribution to cultural landscape maintenance | high contribution to cultural landscape maintenance
- low cultural value of continuing presence of animals | high cultural value of continuing presence of animals
- low historic value of exotic species | high historic value of exotic species
- low nature conservation values of species | high nature conservation values of species
- high negative impact on cultural landscape values | low negative impact on cultural landscape values
- high negative impact on other parks values | low negative impact on other parks values
- not consistent with parks objectives | consistent with parks objectives

6.3.4 Examples

Animals and vegetation management at Orroral station
The open pastoral quality of the Orroral Valley landscape was maintained for many years by the grazing of stock. Since the cessation of stock grazing, kangaroos have to some extent maintained the open pastoral character of the landscape. However, it appears that a change in species composition is occurring, due to different grazing habits and tastes. There has been an increase in the natural regeneration of woody species. Long-term monitoring and research to establish the relationship between macropod grazing and vegetation change in this landscape is required. Whether the landscape can be maintained as open grassland by kangaroos remains to be seen.

Overgrazing at Gudgenby
One result of the removal of stock and active management from pastoral landscapes can be seen at Gudgenby station, also in the ACT’s Namadgi National Park. Here, the kangaroo population has increased to the point where damage to vegetation and soils occurs. Active management to control the artificially elevated numbers of this species may need to be considered.

Cattle licences in Tingaringy NP
Cattle grazing is permitted in nearly all of Victoria’s Tingaringy National Park, including ‘wilderness’ zones. Directly across the border to the north lies Kosciusko National Park. Cattle were eliminated from the Kosciusko National Park in 1969, principally on the basis of protection of catchment values, although nature conservation values were considered as well (Scougall 1992:27-28). In the absence of fences separating the two parks, cattle from the Victorian side have direct access to the vegetation and catchments of Kosciusko. This difference in approach reflects historic differences in concern for catchment values: New South Wales feared that the dams of the Snowy Mountains Hydroelectric Scheme would suffer from siltation due to cattle grazing, prompting the removal of cattle from the park.

Wombat damage to Kiandra cemetery
The remains of the cemetery at the abandoned mining town of Kiandra is a significant component of the cultural landscape. The information on headstones, for instance, tells much about the origins,
lives and deaths of the former inhabitants. The place, however, is susceptible to the excavations of rabbits and wombats. Both these animals should be controlled.

6.4 Management of visitor impacts 6.4.1 Background

This section deals with the impacts that people visiting Alps National Parks may have on cultural landscapes and their values.

One of the main objectives of the Alps National Parks is to provide for visitor use for recreational and educational purposes, in a natural setting. However, there are many areas, features and values in national parks that are sensitive to visitor use. In extreme cases, unsympathetic or overuse of these areas can destroy the very values that visitors seek out in National Parks. Setting and managing for an appropriate level of visitor use that services visitor demand at the same time as protecting cultural landscape and other parks values is an essential task of management.

6.4.2 Types of visitors and visitor activities

Types of visitors and visitor activities with a bearing on cultural landscape management in Alps National Parks include daytripping, sightseeing, car touring, bushwalking, downhill skiing, crosscountry skiing, nature and scientific study; education, visiting resorts, attending conferences in resorts, four wheel drive touring, camping, car camping, rockclimbing, caving, historical and heritage study, picnicking, horseriding, mountain bike riding, gold panning and gem-seeking, hunting (legal and illegal), and fishing.

6.4.3 Management implications of visitor use of Alps cultural landscapes

Positive implications

- Making cultural landscapes available for visitation is consistent with the National Parks objective of making educational and recreational experiences available to the public.
- Visitor use facilitates increased awareness and support amongst the public for national parks and cultural landscape values.
- There is the possibility of generating income for parks management - including management of cultural landscapes.

Negative impacts on cultural landscape values:

- Vandalism, theft or removal of portable items of heritage value may reduce the integrity and condition of the cultural landscape and its features.
- Impacts on soil and water may occur, such as erosion and pollution.
• Visitors may introduce weeds into cultural landscapes, or facilitate their spread within the landscape, degrading cultural landscape values.

• Increased fire risk poses a threat to structures and vegetation.

• Use of vegetation and wood from structures as fuel degrades the condition of cultural landscape features.

• Littering may detract from cultural landscape values.

• Demand may be generated for an inappropriate level of services and facilities.
• The costs of managing visitor impacts may be high. **Negative impacts**

**on other parks values:**

• Erosion or soil degradation through activity or overuse.

• Damage to vegetation through trampling or use as fuel.

• Spread of weeds.

• Increased risk of introducing soil and plant pathogens.

• Increased fire risk.

• Littering reduces aesthetic values and may injure wildlife.

• Release or loss of domestic animals with feral potential can impact heavily on indigenous flora and fauna populations.

• Water pollution.

• Physical, biological and visual impacts may result from provision of visitor and resort facilities - especially if planning, design and quality of construction is poor.

6.4.4 **See also:**

Access; Appropriate level of facilities. **6.4.5**

**Guidelines**

• Monitor site for visitor numbers, activities and impacts.

• Determine sustainable visitor use threshold, with respect to both activities and numbers. This will in part depend on the sensitivity or resilience of the cultural landscape or feature. The more
significant the cultural landscape, the greater the need to manage visitor impacts to protect the values of the place.

- Prepare a management plan or revise existing plan to address issue of negative visitor impacts. Options include restricting activity at the site, preventing access to the site, changing visitor behaviour at the site, providing facilities to limit impacts.

- Control visitor use of sites to limit impacts by withholding information on location; encouraging use of alternative, less sensitive or less significant sites; providing physical barriers such as fences and locks on gates; through the use of signage; making the site more difficult to get to through locating car park strategically; increasing ranger presence; by manipulating the level of facilities (eg high level of facilities encourages visitor use), or controlling access eg through a quota system.

- Ensure that physical additions to cultural landscapes such as gates, signs and fences do not detract from significance. This may require redesign of standard parks furniture.

- Foster a 'culture of care' for cultural landscapes and their features, through visitor education, provision of information such as pamphlets, etc

- Include an assessment of visitor numbers, activities and impacts in the monitoring programme for the landscape. Include impacts on both cultural and other landscape features.

- Planning must take account of possible long-term changes in visitor use of the site.  

**6.4.6 Examples**

The Franklin Chalet in Namadgi National Park is a highly intact wooden ski lodge of unique construction built in the 1930s by the Canberra Alpine Club. It is an important feature in a landscape that still contains much evidence of the Club's early skiing activities. Although the site is accessible by car, vandalism has been reduced through relocating the carpark some distance from the Chalet, applying what Ranger Brett McNamara refers to as the 'one-stubby principle': 'If the carpark is situated more than a stubby's walk away from the site,' says Brett, 'we find the problem visitors prefer to stay by the Esky...'
6.5 Providing access to Alps cultural landscapes

6.5.1 Background

The management of access to cultural landscapes and landscape features is an important part of maintaining the cultural and other values of parks landscapes.

6.5.2 Types of access

Access includes provision of information about sites (eg through pamphlets, maps, guides; information boards); signage and markers directing people to places; and the construction and maintenance of walking tracks, roads and car parks etc.

6.5.3 Management considerations

Positive implications of providing access to cultural landscapes:

- Facilitates visitor use of parks features for interpretive, educational and recreational purposes.
- By facilitating visitor use of cultural landscapes, access helps raise the public profile of these areas and their features. This helps build a strong support base for their continued conservation and management.
- Good access facilitates maintenance and management.
- Provision of access can be used to control visitor impacts and use of places.
- Providing planned and properly constructed access can reduce impacts by taking pressure off uncontrolled and degraded access points and paths etc.

Negative implications of providing access to cultural landscapes:

- May contribute to overuse of the landscape.
- May degrade or threaten vulnerable or unsecured landscapes and features, eg through increased vandalism or removal of objects.
- The provision of access may intrude on or degrade cultural landscape values, such as the sense of isolation and abandonment.

Negative implications for other parks values of providing access

- Facilitates weed invasion following road or path construction as a result of:
  - contaminated machinery or materials entering the landscape;
  - the introduction of seed carried in by people, animals or vehicles,
- the creation of disturbed environments suited to weed growth.

- Facilitates the spread of feral animals eg Indian Mynah, Sparrow.
- Increases the risk of fire.
- Increases the risk of introducing sail and plant pathogens.

6.5.4 See also:

Managing visitor impacts.

6.5.5 Guidelines

- The level, type, and location of access should be consistent with the management objectives for the landscape, and should be addressed in the conservation management plan. Factors to consider include:

  - significance of the landscape, - sensitivity
  of the landscape,

  - character, type, and size of the landscape,

  - interpretive and recreational value of the landscape,

  - level, type and impact of visitor uses occurring at present,

  - appropriate/desirable level and type of visitor uses for the landscape as determined in the conservation management plan,

  - expected visitor demand for access to the site in the future.

- Provision of physical access must not degrade the cultural and other values of the landscape. Make sure to:

  - choose the appropriate type of access (eg roads and carparks are likely to have most impact, while foot tracks and paths have less)

  - use methods and materials in construction that are consistent with local methods and materials or with cultural landscape features (eg similar scale, grades, road widths, construction and surfacing materials)

  - avoid damage to relics, features and vegetation - historical and archaeological survey of landscape and sites required prior to construction of access routes, to serve as a guide for the location of access facilities (this should form part of the conservation management plan)
- minimise impact of drainage from roads, carparks and paths (ensure there is no alteration to drainage, hydrology or nutrient status which may affect vegetation, ensure no turbid runoff flows into waterways etc)

- minimise erosion risk (eg revegetate exposed batter faces with locally indigenous plant materials, or avoid exposed surfaces through careful construction and design)

- minimise visual impact on cultural landscape - how does access affect the landscape, as viewed from both within the landscape, and from important vantage points outside it? (eg roads, carparks, signage)

- minimise the risk of introducing weeds into the landscape during construction activity (decontaminate machinery before commencing work in a new area, ensure materials used are weed free).

• Research original access routes, and decide if these are suitable as new access routes. Original access routes can be used only if their values are not destroyed in the process of upgrading eg the values of a bridle track may be lost through upgrading to a road meeting modern motor vehicle standards, although it may tolerate use as a walking path.

• Control of access to sites is an important aspect of visitor management. Methods to reduce visitor numbers or impacts through control of access include:

  - locked gates and barriers over roads, tracks, paths
  
  - signs on roads, tracks, paths or boundaries prohibiting general access

  - placement of carparks at a distance from sites (distance acts as a 'filter') - fencing (post and wire, low rail etc)

  - withholding information on the location of sites and how to get there

  - placing limits on the number of people who can access a site or landscape (eg booking, ballot, wait-in-turn, first-come-first-served systems etc)

  - placement of access roads, tracks and paths etc to direct people away from sensitive areas.

• Cost of providing, managing and maintaining access must be considered and budgeted for (eg clearing and grading tracks, maintaining drainage, revegetating degraded access areas etc).
Limit or reduce access, or access not necessary
High impact of providing access on cultural landscape values
Vulnerable and unsecured site at risk from visitors
High public safety risks in access (eg steep tracks)
Place distant from other visitor destinations
Low interpretive, recreational value
High cost of providing and maintaining access
Access not required for management purposes
Low level of existing or projected visitor demand

Access has no value in managing visitors to reduce impacts

Access acceptable
Low impact on cultural landscape values
Robust and secure landscape and features
Low public safety risks
Proximity to other visitor destinations
High interpretive, recreational value
Low cost of providing and maintaining access
Access required for management purposes
High level of existing or projected visitor demand
Access useful in managing visitors to reduce impacts

6.5.6 Examples

Access at Island Bend
Access to the former hydroelectricity workers' settlement of Island Bend already exists in the form of a network of macadamised roads. If further access was required, asphalt-surfaced vehicle tracks could be provided. Being of similar scale, type and material, such access would be consistent with the original fabric, and would therefore have minimal impact on the values of the site. It would be necessary, however, to indicate that any new roads were not part of the original fabric.

Access to Currango Homestead
The original access to Currango was via the original road and driveway below the homestead complex. This gave a sense of the relationship of the settlement to the extensive open plain below. The trees around the homestead were important landmarks visible from a great distance - these still exist today. As the driveway is still relatively intact, and its scale and construction is consistent with its use as a modern vehicular entry, it could be reinstated as the entry to the property. This would contribute to the original sense of place and would reveal meanings associated with the layout and location of the property. The driveway would need to be monitored, however, for damage from increased use by motorised vehicles, and managed accordingly.

[Photo]
6.6 Determining the appropriate level of visitor facilities for Alps cultural landscapes

6.6.1 Background

Visitor use of cultural landscapes is often accompanied by a demand for visitor services, such as roading, parking and toilet facilities. There may also be demands for further development of commercial activities. The basic rule is to minimise intervention in cultural landscapes, and to ensure that any interventions do not detract from cultural landscape values. This depends in part on the ability of the landscape to absorb facilities without the loss of values.

6.6.2 Management considerations

Positive implications of providing facilities in cultural landscapes:

- May facilitate visitor use of a site thereby fulfilling an important National Parks function.
- May assist in control of visitor use and activity, with potential to minimise negative impacts.

Negative implications of providing facilities:

- May detract from or degrade cultural landscape values (eg McClelland et al 1990:23), for instance by intruding visually, or impinging on the sense of isolation or abandonment.
- May encourage overuse of the landscape.
- Facilities may become attractions in themselves, thereby detracting from the experience of primary parks values that cannot be experienced outside parks environments (Sax 1980:87-90). This may include picnic and barbeque facilities, commercial facilities and resort facilities.

6.6.3 See also

Visitor use; Access; Assessing interpretive value, Interpreting Alps cultural landscapes, Appropriate level of interpretation facilities

6.6.4 Guidelines

- Assess significance of landscape and landscape features.
- Assess sensitivity of landscape to intrusion by facilities.
- Evaluate the interpretive and recreational value of the site.
- Use significance, sensitivity, interpretative value, recreational value, and current and projected visitor use of the site as the basis for setting levels of facilities. This should be addressed in the conservation management plan.
• Facilities must only support the visitor experience of primary national parks landscape values, rather than being attractions in themselves (Sax 1980:88-89).

• Provision of facilities may be used as a means of controlling visitor impacts on cultural landscapes - eg paths, fencing, signage.

• Level and type of facilities should reflect the management objectives for the landscape.

• If the landscape or feature is currently overused and suffering from degradation as a result, removal or reduction of some existing facilities may help reduce visitor pressure (eg closure of a carpark or removal of picnic facilities).

• Design and construction of visitor facilities in cultural landscapes must be of a high standard, with minimisation of impact as a primary objective. New facilities must be identifiable as new additions to the landscape. Note that the opportunity exists to make a positive contribution to the cultural landscape through excellence in design and construction - for example, Greg Burgess’ Aboriginal cultural and interpretation centre at Gariwerd, Brambuk, or the centre serving a similar purpose in Uluru National Park.

• Ensure that facilities can be removed and the site restored to its original condition if this was desired, through appropriate siting and design, documentation of site prior to construction, and avoiding the destruction of cultural landscape features etc.

• Monitor impact of facilities on landscape values. Criteria to include integrity of site, visual impact, fabric of landscape etc

• Level of facilities must not degrade cultural landscape values.

<table>
<thead>
<tr>
<th>Lower level of facilities appropriate/acceptable</th>
<th>Higher level of facilities appropriate/acceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>• High sensitivity of cultural or other landscape values to intrusion by facilities</td>
<td>• Low sensitivity of cultural or other landscape values</td>
</tr>
<tr>
<td>• Low interpretative or recreational value of cultural landscape</td>
<td>• High interpretative or recreational value of cultural landscape</td>
</tr>
<tr>
<td>• Low current or projected visitor numbers</td>
<td>• High current or projected visitor numbers</td>
</tr>
<tr>
<td>• High impact on landscape values of facility type and design</td>
<td>• Low impact of facility type and design</td>
</tr>
<tr>
<td>• Facilities do not meet primary national parks objectives ie do not facilitate the experience of unique natural and cultural environments</td>
<td>• Facilities assist in meeting primary national parks objectives ie aid experience of unique natural and cultural environments</td>
</tr>
<tr>
<td>• Poor design and construction of facilities</td>
<td>• Excellence in design and construction</td>
</tr>
<tr>
<td>• Facilities offer no benefits in reducing existing negative visitor impacts</td>
<td>• Facilities useful in reducing existing negative visitor impacts</td>
</tr>
<tr>
<td>• Adequate or similar facilities exist nearby</td>
<td>• No similar facilities nearby</td>
</tr>
</tbody>
</table>
### 6.7 Assessing the interpretive value of Alps cultural landscapes

#### 6.7.1 Background

Assessing the interpretive values of a cultural landscape is necessary, for the purposes of choosing the landscape likely to yield the greatest interpretive benefits, and in deciding where scarce interpretive resources should be deployed. Assessment of interpretive value should be undertaken as part of the conservation management plan for the landscape.

#### 6.7.2 Guidelines

The following table sets out the basis for determining which landscapes and features have the best interpretive potential.

<table>
<thead>
<tr>
<th>High interpretive value, suitable for interpretation</th>
<th>Low interpretative value, not suitable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant Alps themes, features, historic periods present</td>
<td>Significant Alps themes, features and historic periods not represented</td>
</tr>
<tr>
<td>Other significant themes features and historic periods present, eg regional, state or national</td>
<td>Other significant themes features and historic periods not present, eg regional, state or national</td>
</tr>
<tr>
<td>Wide range of themes, features and periods represented</td>
<td>Narrow range of themes, features and periods represented</td>
</tr>
<tr>
<td>Themes and features easily discernible</td>
<td>Themes and features not easily discernible</td>
</tr>
<tr>
<td>Features in good condition</td>
<td>Features in poor condition</td>
</tr>
<tr>
<td>Landscape and its features well integrated</td>
<td>Landscape and its features poorly integrated</td>
</tr>
<tr>
<td>Relationships between features, or between features and themes, easily discernible</td>
<td>Hard to discern relationships</td>
</tr>
<tr>
<td>Much information available on the landscape and its significance eg historic documents local histories</td>
<td>Little or no information on the landscape and its significance</td>
</tr>
<tr>
<td>Landscape and features robust, able to tolerate high degree of use</td>
<td>Landscape and features vulnerable, not robust</td>
</tr>
<tr>
<td>Landscape and features secure (eg presence of easily removable items)</td>
<td>Landscape and features not secure</td>
</tr>
<tr>
<td>Landscape is easily accessible</td>
<td>Access poor or difficult</td>
</tr>
<tr>
<td>High visitor numbers existing or predicted-</td>
<td>Low visitor numbers</td>
</tr>
<tr>
<td>Low public safety risks</td>
<td>High public safety risks</td>
</tr>
<tr>
<td>Low cost of providing facilities and managing landscape for interpretative and protective purposes</td>
<td>High cost of providing facilities and managing landscape for interpretative and protective purposes</td>
</tr>
<tr>
<td>Original uses and activities persisting (continuing use landscape)</td>
<td>Original uses and activities discontinued (relict landscape)</td>
</tr>
<tr>
<td>Proximity to other visitor destinations</td>
<td>Distant from other visitor destinations</td>
</tr>
</tbody>
</table>
6.8 Interpreting Alps cultural landscapes

6.8.1 Background

The methods that can be used for interpreting Alps cultural landscapes are similar to those used for interpretation in general.

6.8.2 Methods of interpretation

Methods that can be used include: staffed information centres, information boards and maps, pamphlets, books, self-guided walks and drives, guided walks and tours, informal ranger presence, displays, commercial tour operators.

6.8.3 Guidelines for interpretation

- Highlight the most significant features, themes and historic periods represented in the cultural landscape.

- As far as possible and appropriate, interpret the many layers of history and meaning in the landscape.

- Try and build a picture based on themes and the interrelationship of themes.

- Try and place the themes and history of the landscape in the context of the wider Alps story, and if possible, in the context of regional, state or national events.

- Describe the site in comparative terms, to help the visitor decide whether this is a unique landscape, whether it was representative, whether it is the only one of its type left, or whether it is exceptional for any reason etc.

- Try and draw out the interactions between nature and culture, and between landform and activity, that have shaped this particular landscape and make it unique.

- Take the landscape approach in interpretation: draw out the relationship to other crucial cultural or environmental factors that are essential to the meaning of the place (and therefore form part of the cultural landscape), even though these may be at some distance from the interpretation site.

- Try and draw out features and qualities that demonstrate specific adaptations of activities, practices and techniques to Australian Alps conditions.

- Stress the dynamic nature of cultural landscape evolution, by comparing present day management and landscape form with that of the past, thereby interpreting environmental change and landscape processes.

- Emphasis should be on the provision of information that is essential to the interpretation of the site, that the average person would be unlikely to know.
• Ensure that the information provided does not intrude unnecessarily on the observer's experience and enjoyment of the cultural landscape, and the ability to develop his or her own interpretation of the site. The inclusion of appropriate excerpts from historical sources may be useful.

• Include 'site etiquette' information where appropriate.

6.9 Determining an appropriate level of interpretation facilities

6.9.1 Background
In setting an appropriate level of interpretation facilities for a cultural landscape, the right balance must be found between explaining themes and history adequately, and protecting the unique qualities and significance of the landscape.

6.9.2 Management considerations
Interpretation facilities may detract from cultural landscape values through:

• introducing new, unsympathetic elements into the landscape;

• degrading cultural landscape values through physical alteration of the fabric of the site;

• visual intrusion;

• imposing an unnecessarily rigid view of history and perspective on the site, thereby not allowing 'room' for the observer to form and develop and enjoy his or her own view;

• detracting from the desolate character of an abandoned landscape, or
• attracting attention to a vulnerable and unsecured site. 6.9.3 See also

Visitor use; Access; Appropriate level of visitor facilities; Assessing the interpretive value of Alps cultural landscapes; Methods for interpretation of Alps cultural landscapes.

6.9.4 Guidelines

• Ensure that the landscape and its features are secured (ie that they will not be degraded through the activities of visitors). Landscapes and their features can be secured, for example, through adequate protection for vulnerable features, and the safe storage of movable items).

• Ensure that the level of interpretive facilities is consistent with the objectives for the landscape and its interpretive value, as set out in the conservation management plan.

• Ensure that the facilities are in keeping with the character of the landscape (scale, design, materials, construction).
• Ensure that the interpretive facilities do not intrude unnecessarily on the observer's experience of the cultural landscape.

• Ensure that the design and construction of interpretive facilities are of a high standard.

• Where provision of interpretive materials onsite is likely to intrude on or degrade the landscape, materials may be provided at a location some distance away such as a carpark or parks office. Alternatively, portable information such as pamphlets or booklets may be used.

<table>
<thead>
<tr>
<th>Low level of interpretive facilities acceptable or appropriate</th>
<th>High level of interpretive facilities acceptable or appropriate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low interpretive value of landscape</td>
<td>High interpretive value of landscape</td>
</tr>
<tr>
<td>Highly vulnerable and poorly secured landscape at risk from visitor impacts</td>
<td>Robust and well secured landscape</td>
</tr>
<tr>
<td>Inaccessible</td>
<td>Access good</td>
</tr>
<tr>
<td>Low existing or predicted visitor numbers</td>
<td>High existing or predicted visitor numbers</td>
</tr>
<tr>
<td>Cultural and other landscape values vulnerable to intrusion by interpretive equipment and furniture</td>
<td>Cultural and other landscape values vulnerable to intrusion by interpretive equipment and furniture</td>
</tr>
<tr>
<td>Other similar landscapes or features interpreted nearby</td>
<td>No similar landscapes or features interpreted nearby</td>
</tr>
<tr>
<td>High costs of providing facilities and management for interpretive purposes and protection of landscape</td>
<td>Low costs of providing facilities and management for interpretive purposes and protection of landscape</td>
</tr>
<tr>
<td>Low quality of design and construction of interpretive facilities</td>
<td>High quality of design and construction of interpretive facilities</td>
</tr>
<tr>
<td>Distant from other visitor destinations</td>
<td>Close to other visitor destinations</td>
</tr>
<tr>
<td>High public safety risks</td>
<td>Low public safety risks</td>
</tr>
</tbody>
</table>

6.9.5 Example

Interpretation facilities at Willis
Willis is a place on the NSW-Victorian border along the Barry Way, with a rich history of occupation and movement. It includes evidence of Aboriginal occupation, early surveying activities, and intercolonial administrative arrangements. Interpretive facilities are of a high standard of design and construction. They are appropriately located at a traditional stopping point. This location itself interprets the landscape: it is flat open, suitable for breaking a difficult journey, and inviting rest and refreshment with its good access to the Snowy River. The area's administrative and surveying histories are evident nearby: both the original state boundary markers and the site of the former border control point can be seen from the interpretation board. The place has extremely high interpretive value.

The display provided is both evocative and informative, containing interesting information that is not common knowledge, and that enables the observer to interpret not only this particular site, but also the landscape he or she has just travelled through. At the same time, the various Alps, state and interstate historic themes are introduced. The landscape changes resulting from
European land use are interpreted with a minimum of intrusion, through the use of original material from explorers' diaries and the presentation of factual information. This allows visitors to draw their own conclusions, and to experience the landscape in their own individual ways.

6.10 Traditional and continuing use of Alps cultural landscapes

6.10.1 Background

Traditional use

Generally, the term traditional use applies to traditional practices of indigenous peoples that have occurred in a landscape over a long period of time (McClelland et al 1990), such that the landscape and the practice have to an extent evolved together. A characteristic of many such landscapes is their relative stability, with human activities remaining within the landscape's ecological ability to sustain production and absorb change. Traditional Scandinavian hunting and agricultural practices that co-evolved with the new landscapes created by the retreating ice over 7,000 years are an example.

Australian traditional use landscapes are generally associated with Aboriginal occupation. There is evidence, for instance, that Australian flora and fauna have co-evolved with Aboriginal land management practices over 40,000 years.

By contrast, European agricultural and resource extraction practices in Australia, are relatively new. The application of methods unsuited to Australian environments and conditions have resulted in serious environmental damage, such as soil erosion, alteration to hydrological regimes and decline of plant and animal diversity. Such practices cannot be considered as 'traditional uses', both by virtue of their relative youth, and because they outstrip the capacity of the environment to absorb ecological change. In the context of European landuse in the Alps, such uses can be described as 'established' uses, rather than traditional uses. Where such uses have been discontinued in the Alps National Parks, they are best referred to as 'former' uses.

Continuing use

'Continuing use' refers to the continuation of activities that were undertaken in a landscape before a set date, regardless of their age, association with indigenous peoples, or sustainability. Many established activities deemed to be incompatible with primary national parks objectives have been largely discontinued in the Alps National Parks. Forestry and mining are two examples.

Continuation of established uses is considered to add to the cultural value and integrity of a landscape, giving it a rich and complex layering of cultural meaning. In some cases there is an argument for continuing use, as a conservation treatment applied to a significant cultural landscape, such as a pastoral landscape.

6.10.2 Types of activities in the Alps with continuing uses

Many landuse activities in the Alps have been discontinued, particularly those that are considered to be contrary to the primary national parks management objectives. Those that are considered to be compatible with parks management objectives, on the other hand, have continued, such as recreation, water harvesting, conservation and scientific research. Other activities have been discontinued in
some parks or in some areas, but continue to a limited extent elsewhere. These include some pastoral activities such as bush and alpine grazing and associated movement of stock (transhumance), brumby running, limited forest harvesting, and beekeeping.

6.10.3 Management considerations

Positive implications of continuing uses in Alp’s cultural landscapes:

- Practices of long-term user groups may have cultural significance, perhaps representing unique practices or activities discontinued elsewhere.
- Long-term users of parks landscapes may have extremely valuable skills and first-hand historical, ecological and environmental knowledge.
- In some cases, the activities of established users may be vital to the maintenance of significant cultural landscape characteristics.
- The continuation of an activity allows research into its role in landscape formation and management to occur.
- Continuing users may serve as important, informal interpreters of Alps parks landscapes and history to the public.

Negative implications of continuing uses in Alps cultural landscapes:

- The granting of continuing use rights for certain activities may have significant negative impact on primary parks values, such as flora and fauna conservation, soil and water conservation, wilderness value and aesthetic value.
- Some continuing uses may be in direct conflict with the spirit and content of Alps parks management plans and Park Service objectives.

6.10.4 See also:

Assessing the interpretive value of Alps cultural landscapes; Management of animals in Alps cultural landscapes; Management of exotic vegetation, Management of indigenous vegetation.

6.10.5 Guidelines

- Document, record and research continuing use activities.
- Monitor impacts of continuing use activities.
- Document and record discontinued former uses through oral histories and other research.
• Documentation and recording should include the experiences of old-timers, particularly those with a good depth of skills, knowledge and first-hand experience. Record oral histories and conduct site visits.

• Hold skills workshops for parks staff, works crews and community groups active in parks management, in which long-term, continuing users representatives can pass on their skills.

• Establish good communication channels with individuals and groups representing continuing or former users, and consult with them as appropriate. Their attachments to places in the Alps parks must be taken into account in planning and management, and consideration given to maintaining these people's associations and cultural links wherever possible.

• To decide whether activities in parks should continue, assess their compatibility with and impact on primary parks objectives. Incompatible activities with significant impacts should be discontinued. Ecological sustainability serves as a useful guide. This should consider such factors as maintenance of plant and animal species and communities (eg from the point of view of species composition, frequency, structure, age structure, replacement), maintenance of soil systems and hydrological regimes, and so on.

• Where activities are to be discontinued, interpretation should be undertaken to offset the loss of meaning. The more culturally significant the activity, the more extensive and detailed the interpretation should be.

6.10.6 Useful references


6.11 Community groups 6.11.1 Background

Community groups are generally comprised of users with a non-professional - most often recreational - interest in the Alps parks. Community group interests range from parks in general, to particular parks, through to a special class of parks features (eg forestry relics, fauna, flora etc) or parks management activities. The interests of community groups may be sympathetic to or antagonistic to cultural landscape management. Note, however, that more groups are recognising the importance of cultural landscape conservation. The ACT National Parks Association, for instance, has recently amended its constitution to include reference to cultural features.

Community groups are important in parks management from a number of points of view.

• They may have played an important part in having the land declared as national park (eg Namadgi National Park).

• They may represent a significant number of parks users, thereby providing a focus for effective communication of parks policy and user education
They may assist in various cultural landscape management activities in parks, such as research, repairs to historic structures and vegetation management. Note that some community groups possess unique skills and expertise with relevance to some aspects of cultural landscape management.

They may be important politically in mobilising support for or against particular parks cultural landscape policies or management actions.

6.11.2 Types of community groups

Common community groups include 'Friends of groups' (e.g., Friends of Currango), national parks groups (e.g., Victorian National Parks Association), heritage groups, historical societies, groups with an interest in a particular type of parks feature (e.g., Kosciusko Huts Association), flora and fauna study groups, and recreational user groups. Educational institutions can be included here, in terms of providing assistance for cultural landscape management activities. TAFE horticultural course practical exercises and field days should not be forgotten.

6.11.3 Management considerations

A number of issues must be considered in relation to community groups and cultural landscape management in parks:

- Involving community groups in planning and management can reduce conflict in relation to cultural landscapes and landscape features.

- Involvement of community groups can increase sense of ownership of cultural landscapes and cultural landscape features in parks. This may be important in mobilising support for cultural landscape policies and management actions.

- Community groups may be able to provide a range of cultural landscape services (such as research, maintenance) that would otherwise not be available. The Kosciusko Huts Association, for example, plays a central role in the management of huts in both Namadgi and Kosciusko National Park.

- Co-ordination and supervision of community group activity may require much time and staff involvement.

- As for any activity in parks, public safety and liability issues need to be addressed in relation to community group involvement.

6.11.4 See also

Traditional and continuing use.
6.11.5 **Guidelines** Consultation and education

- Incorporate community consultation as part of the parks planning process. Adequate consultation and proper planning at the outset will help minimise conflict with community groups at later stages.

- Maintain contact with appropriate community groups during the course of planning and working on areas, features and activities of common interest. Note the importance of undertaking this contact in a broader planning context, to minimise the chances of community groups gaining control of the agenda.

- Ensure that clear explanations of cultural landscape management decisions are conveyed to interested community groups, outlining the reasons why decisions are taken.

- Communicate the importance of cultural landscape conservation and appropriate user behaviour through community groups. This may include preparation of items for group newsletters or magazines, talks, meetings with representatives, field demonstrations etc. For community groups whose interests are specialised, educational emphasis will need to be on the multilayered characteristics of cultural landscapes.

**Assistance from community groups**

Several points must be borne in mind when the assistance of community groups is sought. Obviously, most of these practices are standard for parks staff already.

- Where possible and appropriate (eg with respect to Parks Service policy), encourage the involvement of community groups in cultural landscape management. This may include assistance with research (eg historical societies), maintenance of historic structures (eg hut maintenance), vegetation management (weed or regeneration control, revegetation of degraded areas, documentation and preservation of significant exotic vegetation), surveys (environmental change, visitor use and impacts).

- Ensure that all work is done according to a conservation management plan, prepared in accordance with these guidelines. Conservation management plans must be consistent with planning objectives for the landscape set out in the general parks management plans.

- Clear instructions and supervision are required for community groups when working on cultural landscapes and features. Investigate the possibility of coordinating with works crew activities, to minimise supervision requirements.

- Build community group skills in cultural landscape and landscape feature management, through provision of information, field days, traditional skills days.

- Ensure all public safety, public liability and insurance issues are addressed before allowing community groups to undertake work on cultural landscapes or landscape features. Refer to
relevant Parks Service policy and procedures documents, or the appropriate section of Service head office.

- Ensure all union issues are addressed before allowing community groups to undertake work in parks. Refer to relevant Parks Service policy and procedures, appropriate union etc.

6.11.6 Example

Skills days held by Kosciusko Huts Association
Kosciusko Huts Association holds skills training days, where expert, established users teach Association members and others skills in building and maintenance of structures.
References


Egloff, B. J. (1988) Orroral Valley heritage conservation plan Anutech Pty Ltd, Canberra


Mulvaney, D. J. ed (1991) The humanities and the Australian environment Occasional paper no. 11, Australian Academy of Humanities, Canberra

Mulvaney, M. J. (1994) 'The invasive potential of species used in garden and amenity plantings in the Tasmanian World Heritage Area' Unpublished report to the Tasmanian Department of Parks, Wildlife and Heritage

National Trust of Australia (New South Wales) (1989) Landscape assessment: manual of practice National Trust of Australia (NSW), Sydney


Ramsay, J. (1991) How to record the National Estate values of gardens Australian Heritage Commission, Canberra


Scougall, B. ed (1992) Cultural heritage of the Australian Alps Proceedings of the 1991 symposium held at Jindabyne, NSW; Australian Alps Liaison Committee, Canberra


Victorian Department of Conservation and Environment (1992) Bogong Unit, Alpine National Park: Management plan DCE, Melbourne

Victorian Department of Conservation and Environment (1992) Cobberas-Tingaringy Unit, Alpine National Park: Management plan DCE, Melbourne

Victorian Department of Conservation and Environment (1992) Dartmouth Unit, Alpine National Park: Management plan DCE, Melbourne


Victorian Department of Conservation and Natural Resources (1993) Snowy River National Park: Draft Management plan DCE, Melbourne

Useful references for the office


National Trust of Australia (New South Wales) (1989) Landscape assessment: manual of practice National Trust of Australia (NSW), Sydney


Scougall, B. ed (1992) Cultural heritage of the Australian Alps Proceedings of the 1991 symposium held at Jindabyne, NSW; Australian Alps Liaison Committee, Canberra
Appendix 1: Assessments and significance statements for Currango and Kiandra

A) Currango Homestead and landscape

Statement of significance

1. Currango is the largest and most intact example of permanent settlement above the snowline in Australia, with more than twenty-five remaining buildings and ruins spanning 150 years of settlement, reflecting the evolution of the place.

2. The present complex is built on the site of one of the first white settlements on the high plains: the 1850 homestead of Thomas O'Rourke. It is possible that the shed was part of the original homestead.

3. The buildings exhibit a wide range of vernacular construction techniques, including vertical slab.... Several of the larger buildings feature weatherboard construction, and this represents the second use of milled timber in a high plains homestead, subsequent to the miner's cottage of Gooandra.

4. The arrangement of buildings into clusters separated and defined by the landscape reflects the social standing and relationships which existed during the major pastoral period from 1913-1946.

5. The landscape features and similarity in form, colour, and texture of the buildings, give the site and aesthetic character which reflects the desire of the early inhabitants to recreate an English park-like setting.

6. The large pine trees form a distinctive landmark visible for some distance across the plains. This is a graphic reminder of the past use of the area and the homestead's importance as a social centre.

7. The site is associated with prominent pastoral interests including Thomas ORourke, Arthur Triggs, and the Australian Estate and Mortgage Co.

8. Currango is important to the local community both as the home of Tom and Molly Taylor for over 40 years and as an important social centre on the high plains for more than 100 years.

9. Currango has been used for low-key recreational accommodation continuously since the 1930's. It remains the only facility of its type in the Park, and one of the longest running accommodation facilities in the Snowy Mountains. ('NSW National Parks and Wildlife Service n.d.)
B) Kiandra

Statement of cultural significance

1. Kiandra Village precinct is culturally significant as the site of a mid-19th Century Australian gold mining town. This significance is enhanced by evidence of the satellite towns which sprung up in the surrounding area.

2. Despite the loss of most of the built environment, the mining landscape and remaining built features present a’ ghost town’ image that is a poignant reminder of an important historical event in the evolution of Australian society.

3. The significance of Kiandra as a gold mining town is primarily related to its unique geographical setting and the influences that extreme climatic conditions imposed on the town's social and economic activity at the time.

4. During the gold mining boom of the 1860's it was the highest permanent town above the snowline in Australia.

5. Although short lived, the gold rushes at Kiandra had a profound impact on the surrounding region, through the development of both local and regional transport networks.

6. Subsequent pastoral and economic expansion in the Monaro region was facilitated by roads that were originally constructed to service gold mining at Kiandra and the surrounding district.

7. Kiandra is also significant as the birthplace of skiing in Australia. Introduced by immigrant diggers, the sport of snow-shoeing quickly became popular and epitomises the adage of 'necessity being the mother of invention'.

8. The country's first snow shoe club .... was established at Kiandra in the 1870s. The T-bar, an innovation to carry skiers up slopes, was first used in Australia at Kiandra. It is still in use at the nearby ski resort of Mt Selwyn.

9. ...The massive tourism industry developed to service the sport in Kosciusko National Park owes its origins to Kiandra.

10. Kiandra ...[is] a significant repository of historical data associated with gold mining techniques. There is evidence of all the different techniques of mining which provide a chronological record of the development of the history of mining.

11. The remains at New Chum Hill, and water races at Pollocks Gully .... are particularly good examples of their type....

12. Kiandra is highly socially significant to local communities who retain strong cultural ties with the place. For them it symbolises the forbearance of their ancestors, many of whom went on to create the grazing history that has immortalised Kosciusko National Park.

The extant structures at Kiandra have varying degrees of cultural significance but in general significance is enhanced because of the loss of other fabric....' (Feary 1995)
Appendix 2: Examples of conservation policy A) Kiandra draft study

The Kiandra draft study provides an example of a statement of conservation policy (Feary 1995). It includes the following recommendations:

Constraints arising from the statement of cultural significance

1. The... statement attaches a high degree of significance to the natural environmental setting and the mining landscape.... ....as a complex [the buildings] are integral to understanding the original townscape. Conservation policies will be directed towards preserving both the existing aesthetic qualities of both the natural and cultural environment.

2. The predominantly tussock grasslands of the Kiandra plain, surrounded by low woodland on the ridges and dissected by the rivers and streams, provide an important backdrop for the cultural elements.

3. They are reminiscent of the harsh weather conditions that were endured during the gold rush period and are particularly evocative when viewed from high points around the plain.

4. The views that visitors experience when approaching from the southeast..., are important and are to be preserved.

5. The air of desolation of Kiandra has a special significance in that it reflects the decay of a once thriving township. No attempts will be made to recreate any of the buildings that were once present.

6. All mining landscape features will be protected from development and where feasible, from the effects of the natural processes of erosion....

General policies...

- That the remaining buildings, features, mining landscape, townscape remnants, natural landscape, and archaeological remains be conserved....

- That visitors be encouraged to use Kiandra through the provision of improved facilities and opportunities for a wide range of recreational uses.

- That visitors be encouraged to appreciate Kiandra's history through the installation of more interpretive facilities.

Specific policies...

- The curtelage of the courthouse is to be restored as far as possible by the removal of inappropriate structures and by landscape management...
The mining landscape is to be recorded and preserved through active erosion control...

- Exotic plantings will be identified and maintained.

- Matthews’ Hut will be reconstructed to its original 1890 appearance. Later additions will be removed and the picket fence reinstated. Consideration will be given to moving the hut back from the [new] road to restore the original curtailage which has been destroyed by highway construction....

- The cemetery will be preserved and interpretive material will be improved. ’(Feary 1995) B) Currango

Conservation Plan

As well as detailing policy in the above fashion, the Currango Conservation Plan sets out information in tabular form (NSW NPWS n.d:26):

<table>
<thead>
<tr>
<th>COMPLEX A</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Homestead</td>
<td>Conserve the fabric to show the various stages of alterations and reconstruct...</td>
</tr>
<tr>
<td>Meat shed</td>
<td>May be adapted for a new use...</td>
</tr>
<tr>
<td>Chicken shed</td>
<td>No active management....</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STRUCTURES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheepyards and dip</td>
<td>Preserve site and interpret...</td>
</tr>
<tr>
<td>Slaughteryards</td>
<td>Reconstruct...</td>
</tr>
<tr>
<td>Bridges</td>
<td>No active management...</td>
</tr>
<tr>
<td>Telecom transmission tower</td>
<td>May be removed....</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PLANTINGS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Deliberate plantings</td>
<td>Replace plants reaching limit of their life</td>
</tr>
<tr>
<td>Self-sown weeds</td>
<td>Remove weeds and wildings</td>
</tr>
</tbody>
</table>