

*THE INTERNATIONAL SIGNIFICANCE*  
*of the*  
*CULTURAL VALUES*  
*of the AUSTRALIAN ALPS*

**REPORT to the AALC**

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## ACKNOWLEDGEMENTS

This study was first mooted in the late 1980s by the AALC but the Cultural Heritage Working Group members decided that a symposium canvassing the state of current knowledge about the cultural history and heritage of the Alps was required first. The result was the Jindabyne symposium and its proceedings. Following this the Working Group sponsored work on oral history, cross border interpretation at Willis, Aboriginal pathways, cultural landscape guidelines and ranger training. This report is an attempt to re-examine the cultural values of the Australian Alps and analyse whether there is currently enough information to present a case for potential World Heritage listing.

The AALC Program coordinators have all been wanting this case: thanks to Janet McKay, Neville Byrne and Brett McNamara. The current Cultural Working Group members have added a lot to the report by way of debating earlier drafts, providing updated information and causing clarification of the arguments put forward: thanks to Debbie Argue, Alistair Grinbergs, Kathryn Maxwell, Janice Cawthorn, Ray Supple and Jane Kierce.

Sharon Sullivan organised access to the latest papers of the World Heritage Bureau regarding their global strategy and debates about integrated criteria for listing places of outstanding universal significance. Brian Egloff provided information about alpine sites in New Guinea and Ken Heffernan provided information about alpine sites in the Andes.

## EXECUTIVE SUMMARY

This report has been commissioned by the Australian Alps Liaison Committee to assess the international significance of the cultural values of the Australian Alps. Their aim for the report is to prepare a parallel case to that prepared by Dr Jamie Kirkpatrick for natural values in 1994.

The Brief required the following four tasks to be undertaken:

- i. analysis of the cultural values already known for the Australian Alps national parks;
- ii. highlighting the themes, features and attributes and develop arguments that distinguish the Australian Alps in an international context;
- iii. assessment of the potential international significance of the cultural values of the Australian Alps;
- iv. prepare a report in a format that can readily form the basis of a nomination for international recognition.

There is no existing information specifically examining the international significance of the cultural values of the Australian Alps other than the discussion by Titchen in the proceedings of the Jindabyne Symposium. Therefore it has been necessary to survey the existing studies and literature and draw out information according to cultural themes.

Then the current Australian methodology for World Heritage assessment has been described and its application to a forest theme described (1998). This framework has then been used in analysing the existing information on cultural themes evident in the Australian Alps. This in turn has resulted in a summary attempt at a statement of potential or likely international significance using the World Heritage criteria. This is coming at a time when the criteria for assessing international significance are being combined for cultural and natural values and the mandatory test of authenticity is also being reassessed to accommodate traditional cultural concepts of authenticity.

These tasks build on work already undertaken for the Cultural Heritage Working Group at the Jindabyne Symposium on *Cultural Heritage of the Australian Alps* (1991) and in the use of historic themes that were incorporated into the Cultural Landscape Management Guidelines (1996).

However, further fundamental research is required into themes of human occupation in alpine environments before being able to definitively compare Australian evidence with that of the wider international context. The Australian Alps may well prove to be of great importance in illustrating Aboriginal adaptation to climate change in the Late Pleistocene era compared to the more recent occupation of the European Alps. With occupation dates from Birrigai at 21000 BP in a cold cycle and the Holocene warm period from 8500 to 6500 BP, it may be the case that climate change is a link between natural and cultural values and expressed as an outstanding universal value (the World Heritage listing requirement) in the Australian Alps.

### Summary of current site information

The databases for cultural heritage places in the alpine national parks give some indication of identified site types, but the methodology of collection and analysis is not comparable between agencies. Nevertheless, pastoral sites, mining and pathways/routes predominate. It is well known that many of these pathways were based on prehistoric routes used by the Aboriginals in their seasonal occupation of the alpine country (Grinbergs, 1993; Kabaila, 1997).

Some zones of extensive physical evidence of historical activities, such as gold mining, have been identified. Cultural landscape zones have not been formally delineated even though management guidelines have been prepared for them and some areas are obvious, such as Currango and Kiandra in Kosciuszko National Park, Orroral Valley in Namadgi National Park and the suite of Historic Areas gazetted in Victoria.

The lack of integrated data about Aboriginal occupation and use of the alpine areas hinders building a picture of continuity and extent of use from the Pleistocene era to the present.

The following table summarises cultural heritage site/place data by each agency involved in the alpine national parks, although historical place data has not been included yet for Mt Buffalo, the newest reserve added to the MOU area.

Agency	Aboriginal place	Historic place
Victoria	342	150
NSW	460	1440
ACT	158	375
C'wlth -RNE	12	109

### Summary of case for potential World Heritage listing of cultural values of the Australian Alps

There is a case for considering nomination of the Australian alpine park reserves for World Heritage listing on the following UNESCO World Heritage Convention criteria:

**Criterion 24(a) (iii)** - *bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared*

The current archaeological record of human occupation in the Australian Alps suggests a pattern of enduring links of hunting and gathering societies to the possible seasonal use of the alpine areas from 21,000 years ago in the cold climate of the Late Pleistocene through the warmer period of the mid -Holocene until the middle of the nineteenth century. The archaeological record illustrates a more intensive seasonal use of the high country from c.4500 BP when summer food resources like Bogong moths were available.

In the Australian Alps, above the tree line, the continuity of human seasonal movement is possibly the longest and most ancient practised in the biogeographic region.

**Criterion 24 (a) (v)** – *be an outstanding example of a traditional human settlement or land-use which is representative of a culture (or cultures), especially when it has become vulnerable under the impact of irreversible change*

The Australian Alps offer an outstanding example of traditional hunter-gatherer use which was representative of that use over 21,000 years and which has become vulnerable under the impact of irreversible change, whereby the direct descendants of these people now live in a modern rural town society. It is most likely the oldest highland occupation of any extreme climate mountain lands in the world by any Aboriginal peoples and this would confirm its significance as having outstanding universal value as an example of the continuous pattern of human seasonal use.

**Criterion 39 (ii)** - *...organically evolved landscape. This results from an initial social, economic, administrative, and/or religious imperative and has developed its present form by association with and in response to its natural environment. Such landscapes reflect that process of evolution in their form and component features. They fall into two categories:*

- *a relict (or fossil) landscape is one in which an evolutionary process came to an end at some time in the past, either abruptly or over a period. Its significant distinguishing features are, however, still visible in material form.*
- *a continuing landscape is one which retains an active social role in contemporary society closely associated with the traditional way of life, and in which the evolutionary process is still in progress. At the same time it exhibits significant material evidence of its evolution over time.*

As a continuing landscape, the alpine high country is subject to summer seasonal visitation by bush walkers and tourists seeking recreation and spiritual ‘food’. There is some comparison with the seasonal movement in summer of Aborigines who visited there possibly for 21,000 years and, for at least the last 4500 years, for their Bogong moth festivals and associated rituals. This seasonal movement to the high country is a cultural continuity.

**Criterion 39 (iii)** – *associative cultural landscapes. The inclusion of such landscapes on the World Heritage List is justifiable by virtue of the powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent.*

Associative cultural landscapes may include large or small contiguous or non-contiguous areas and itineraries, routes or other linear landscapes – these may be physical entities or mental images embedded in people’s spirituality, cultural tradition and practice. Even without documenting the Aboriginal spiritual associations with the alpine high country, there is still abundant evidence on which to further develop the case for associative cultural landscape listing based on the inspirational nature of Australian alpine landscapes due to its superlative natural phenomena and exceptional natural beauty both of which are realized in cultural values.

As well as meeting one of the criteria in paragraph 24 (a), a nominated property/place must meet the test of authenticity –paragraph 24 (b)(i). With regard to a cultural heritage monument, authenticity can be ambiguous. If authenticity is taken to mean of ‘undisputed origin, genuine, lacking adulteration’ hardly any monument as it stands today can be said to be authentic. The environment in which most of today’s cultural monuments were originally erected has been changed by time, natural disasters, human destruction.

Application of the test of authenticity raises some difficulties when applied to Australia’s cultural sites and cultural landscapes. These sites have long histories and complex associated values, particularly in the case of indigenous sites. Australian Aboriginal cultural sites do not represent a built heritage, but rather a process of close interaction between people and their environments over along period of time. In many instances, the cultural values are manifestations of the ability of people to respond effectively to the challenges and opportunities presented by their natural environment as it changed over time.

The wilderness characteristics that make up an important part of the natural heritage significance of the property are the same characteristics that provided the challenges which gave rise to significant cultural adaptations. In this context, it is important to note that the term “wilderness” does not connote exclusion of people from the landscape. Rather, wilderness areas are large areas in which ecological processes continue with minimal change caused by modern development. Indigenous custodianship and customary practices have been, and in many places continue to be, significant factors in creating what non-indigenous people refer to as wilderness. This supports the argument that natural and cultural values form a conceptual continuum rather than discrete concepts (Sullivan, 1998:2-3).

### **Conclusion**

It seems that a strong case could be made on the four cultural criteria summarised above for the listing of most of the MOU area under the World Heritage Convention. However, further research as described below is required to fully describe and evaluate the application of the criteria to cultural attributes of the alpine places mentioned.

In 1994 Kirkpatrick argued that there was a strong case for the same area on the grounds of all four natural criteria. With the current merger of criteria for cultural and natural properties and instructions that the conditions of integrity including appropriate notions of authenticity be related directly to each of the criteria, it seems more likely that a nomination for listing of the Australian Alps as a place of outstanding universal value would succeed. The former natural criterion (ii) is to include human interaction with the environment, while criterion (iii) allows for spiritual as well as aesthetic.

“Outstanding universal value” can only be identified by systematic thematic studies and the themes should be formulated in a manner which allows responses to be identified in the different cultures and regions. This is the path that the World Heritage Bureau is following with its regional thematic studies. A more detailed examination of the antiquity and characteristics of seasonal migration of hunter –gatherer societies in alpine regions

throughout the world as detailed in Appendix 4 is required before the case for the Australian Alps is absolutely confirmed. In comparative studies, like should be compared with like. Further research is required into the following aspects to allow a comprehensive construction of the Australian case.

### **Further Research**

#### a. Aboriginal archaeology:

In order to answer fundamental questions regarding the nature of Aboriginal occupation across the Alps and the time span for that occupation, specific field work is urgently required. The following priorities are suggested:

- archaeological testing in the upper Wollondibby Valley to reveal traces of prehistoric summer settlements containing a small number of tools of exotic stone brought in by visitors; the same for other valleys high up in the Alps but with a different geographic aspect, such as in the Kiewa, Wonnangatta, Snowy valleys
- investigation of the precise locations of recent prehistoric ceremonial grounds;
- research into the early Holocene fauna as a basis for understanding seasonal resource exploitation for Aboriginal subsistence in the mountains during the Early Holocene and the possibility of exploitation during the Late Pleistocene (see Argue, 1998).

#### b. Aboriginal anthropology and oral tradition

In order to answer fundamental questions about disruption to traditional practices following European settlement and intrinsic cultural anthropological values of Aboriginal peoples in the Alps, the following are suggested:

- Research is required into dreaming stories, rituals and beliefs associated with the annual Bogong moth festival.
- Oral histories of family connections with specific places in the Australian Alps should be conducted in communities with descendants of the Ngarigo, for example, at Tumut.

#### c. European expansion –forced migration

- Detailed research into the number of and length of employment of assigned convicts to pastoral stations in the alpine valleys is required to fill out Hancock's research.

#### d. Utilizing alpine resources- spoiling, restoring and improving

- Detailed comparisons with other continents and nations are required to evaluate whether the twentieth century postwar engineering feat of the Snowy Mountains Hydro-electricity Scheme and its associated immigration are of outstanding universal significance .

#### e. Scientific research in alpine areas

- Australian alpine research is recognised as being of international significance and the scientific sites are of outstanding cultural significance. There needs to be a short comparative study quantifying the types and extent of work undertaken.
- The recommendations of Griffiths and Robin (1994) regarding recording, monitoring, establishing a database of known sites, further research into the careers of the scientists and publication of existing alpine science history should be implemented.

f. Continuing cultural landscapes

Work is required to delineate areas within the MOU area which can be categorised in terms of World Heritage criteria:

- i. designed intentionally by man, e.g. Currango, Kiandra;
- ii. organically evolved –including relict or fossil landscapes, and continuing landscapes, e.g. Birrigai, Thredbo Valley camp sites;
- iii. associative cultural landscapes, e.g. Snowy Mountains, Snowy River.

g. Associative cultural landscapes

- Need for more detailed studies of both academic and popular culture to assess the depth of cultural associations with the natural features and phenomenon of the Australian Alps.
- Aboriginal associations as mentioned previously need also to be documented.

## 1. INTRODUCTION

The Conservation Ministers of the Australian Capital Territory, New South Wales, Victoria and the Commonwealth Governments have entered into an agreement to ensure cooperative management of the parks containing alpine and sub-alpine environments managed by the agencies for which they are responsible. The Australian Alps Liaison Committee is a coordinating group which manages an annual works program to enhance consistency and cooperation in the management of the Australian Alps national parks.

This report has been commissioned by the Australian Alps Liaison Committee to assess the international significance of the cultural values of the Australian Alps. Their aim for the report is to prepare a parallel case to that prepared by Dr Jamie Kirkpatrick for natural values in 1994.

The tasks called for in the Brief are as follows:

- A. Examine and analyse existing information on the international significance of the indigenous and non-indigenous cultural values of the eight reserves making up the Australian Alps national parks and any adjacent relevant cultural features or landscapes.
- B. Highlight themes, features and attributes and develop arguments that distinguish the Australian Alps in an international context.
- C. Make a statement assessing the international significance of the cultural values of the Australian Alps.
- D. Prepare a report in a format that can readily form the basis of a nomination for international recognition.

These tasks build on work already undertaken for the Cultural Heritage Working Group at the Jindabyne Symposium on *Cultural Heritage of the Australian Alps* (1991) and in the use of historic themes that were incorporated into the Cultural Landscape Management Guidelines (1996). They also make reference to the Principal Australian Historic Themes for the Australian Heritage Commission so that themes can be compared across the nation.

However work is required to compile relevant international themes of human occupation in alpine environments and then compare Australian evidence with the wider international context. The Australian Alps may well prove to be of great importance in illustrating Aboriginal adaptation to climate change in the Late Pleistocene era compared to more recent occupation of the European Alps. With occupation dates from Birrigai at 21000 BP in a cold cycle and the Holocene warm period from 8500 to 6500 BP, it may be the case that climate change is a link between natural and cultural values and expressed as an outstanding universal value (the World Heritage listing requirement) in the Australian Alps.

## 2. EXISTING INFORMATION ON CULTURAL VALUES OF THE AUSTRALIAN ALPS NATIONAL PARKS

The Australian Alps National Parks cover the following nine reserves:

<b>Victoria</b>	Alpine National Park	645 615 ha
	Avon Wilderness	98 100
	Snowy River National Park	39 650
	Mount Buffalo National Park	31 000
<b>New South Wales</b>	Kosciuszko National Park	690 000
	Brindabella National Park	12 000
	Scabby Range Nature Reserve	3 449
	Bimberi Nature Reserve	7 100
<b>Australian Capital Territory</b>	Namadgi National Park	105 900

Each agency has its own database and the recording, collection, storage and access to this data is not consistent. The fields of data collected are not compatible. The databases were established for a variety of purposes and therefore their incompatibility is not surprising. It should also be noted that there is a considerable amount of material on Regional and District agency files concerning heritage places, but this information is unlikely to be transcribed into entries for formal agency databases.

Following the Council of Australian Governments directions as outlined in the Intergovernmental Agreement on the Environment, the Australian Heritage Commission has established a National Heritage Coordination project aimed among other tasks at setting and using common standards for data collection and terminology. Sites/places for listing are allocated themes. Development of common database fields will enable comparisons of attributes of similar places. However, there has been no attempt to superimpose World Heritage themes over Principal Australian Historic Themes or any other integration of existing theme-organised databases.

### 2.1 Victoria:

#### a. Historic places:

Parks Victoria and the Department of Natural Resources and Environment have a database covering historic places. There are 150 places in the alpine parks entered on it. Table 1 gives the details. However, it does not contain all the data from the *Victorian Alpine Huts*

*Heritage Survey* (Butler, 1996) or from studies undertaken for the North East Regional Forest Agreement process. Of the 112 huts studied by Butler, 17 were assessed as having heritage value to the State, 21 as having heritage value to the alpine region, 23 as having value to the locality and 37 as having no known heritage value. Only 27 of the huts predate World War II.

The Historic Places Section database was reviewed in 1994 as it had not been maintained for several years. Brady noted that there were few or no sites relating to certain themes, specifically settlement, logging and land management. Places were listed according to the following themes:

- Exploration
- Grazing
- Settlement
- Mining
- Logging/timber getting
- Surveying
- Communication/access
- Water management
- Recreation/tourism
- Scientific research
- Land management

The review noted that Exploration should include monuments, memorials, stopping places and place names. Grazing was restricted to huts, yards and a few tracks; cultural landscapes resulting from grazing such as Wonnangatta Valley station were missing. No sawmills or tramways were listed. For Recreation/tourism there was a heavy emphasis on huts and lodges, but early ski runs, pole lines, lookouts, hotels and coach routes were absent.

The re-arranged inventory shown in Table 1 has some additional categories and/or mergers of those in the previous database; for example, hotels, motels and inns; parks, gardens and trees; public utilities; cemeteries and burial sites; road transport; residential; government and administration.

The Management Plans for the Alpine National Park (1992) also list historic sites for each management unit under the cultural resource management section as follows:

Bogong Unit – 18 sites;

Dartmouth Unit – 9 sites, including the Dart River and Greens Creek zones, plus the separate Mount Wills Historic Area of 9100 ha abutting the Alpine National Park;

Cobberas-Tingaringy Unit – 14 sites, of which 8 are border survey cairns, plus the separate Mount Murphy Historic Area of 660ha abutting the Alpine National Park;

Wonnangatta –Moroka Unit – 12 sites, including Wonnangatta Station and McMillan Track, plus the Howqua Hills (1300 ha) and Grant (7300 ha) Historic Areas.

The 1995 Management Plan for Snowy River National Park describes only three areas of historical interest: McKillop’s Bridge, Mount Deddick mining area and Rodger River-Jackson Crossing farming selections.

In summary, 57 historic sites have been recorded in these plans.

b. Aboriginal places:

Aboriginal Affairs Victoria is responsible for maintaining a register of all Aboriginal sites in Victoria. The register is not publicly accessible. As part of the planning for the Alpine National Park, listed Aboriginal sites were described for each management unit:

Bogong Unit –1 site, of stone tools;  
Dartmouth Unit –2 sites;  
Cobberas-Tingaringy Unit –45 sites;  
Wonnangatta-Moroka Unit- 7 sites.

For Snowy River National Park, there were 133 Aboriginal sites recorded.

A recent update of the Aboriginal Affairs Victoria database shows nine post-contact registered sites and 342 registered sites within the Australian Alps national parks. The vast majority (90%) are isolated artefacts or surface scatters; 24 scarred trees, two rock arrangements, two quarries, one art site, one grinding groove and one burial site. The database distribution reflects the results of surveys along tracks and trails such as the Deddick and Cobberas trails.

Current studies for the North East Regional Forest Agreement process will reveal more places.

Archaeological surveys conducted as part of the planning studies for development proposals in the Victorian Alps have revealed 44 stone artefacts at Falls Creek and Mt McKay, about 50 quartz artefacts at Rocky Valley and 13 isolated artefacts plus scattered quartz flakes (Shawcross, Hughes and Mullett, 1998) (Hughes, 1999). However these materials have low archaeological significance but collectively, they provide the clearest evidence to date that there were similar patterns of exploitation of alpine resources (especially harvesting of moths) in the Victorian Alps as in the Snowy Mountains.

## 2. 2 New South Wales

The National Parks and Wildlife Service databases for the Kosciuszko National Park show the following Aboriginal site types:

Axe grinding grooves	2
Bora/ceremonial	4
Burial	2
Isolated find	8
Open camp site	413
Quarry	2
Scarred tree	20
Shelter with deposit	5
Stone arrangement	4
Total count	460

There are currently no recorded Aboriginal sites within Brindabella National Park. The database is not really representative of the actual numerical or spatial distribution of Indigenous sites within these parks. It reflects only those sites for which site recording forms have been completed.

Historic sites:

There are 1432 listed in Kosciuszko National Park. Within Kosciuszko, the Kiandra-Tabletop Historic Area of 10300 ha has been separately identified. Of the historic sites, 239 are huts recorded by the Kosciuszko Huts Association. However, the NPWS database sub-codes do not cover all the site types recorded.

In Brindabella National Park 17 sites have been recorded, although 8 of the latter appear to be duplicates and the remainder cover huts, gold mining area, a eucalyptus distillery, trig point, sawmill, ruins and arboreta.

## 2.3 Australian Capital Territory

The ACT Parks Branch maintains a database linked to GIS for all cultural sites in their parks and reserves. The total number of entries for the AALC area are as follows:

### Aboriginal

Shelter with deposit	22
Surface scatter	99
Isolated artefact	16
Stone arrangement	5
Rock paintings	6
Other	10
Total	158

### European

Building	27
Ruin	61
Arboretum/plantation	8
Border marker	247
Brumby yard	11
Other	21
Total	375

## 2.4 Commonwealth of Australia

The Australian Heritage Commission maintains the Commonwealth Government's Register of the National Estate. However, this database is organised by local government area and so covers both the alpine and sub-alpine areas in and around the national parks. It therefore contains listings for a much more extensive area than that covered by the AALC area. Of the 231 places for which there were listings, 12 are Aboriginal places and 109 are historic places.

Table 2 presents a summary of the listed places by class –natural, historic or Aboriginal.

## 2.5 Other

The AALC commissioned a survey of Aboriginal Pathways and it contained a database of the following categories:

Aboriginal pathways	129
Mining tracks	95
Multi-use	14
Pastoral	129
Pastoral/recreation	63
Postal	24
Total	454

## 2.6 Cultural Heritage Values in the Australian Context:

The existing databases give an indication of the types and extent of cultural heritage places. These places reflect the historic themes of past occupation and use and these themes are explored in more detail in the next section of the report.

Cultural values for sites within the alpine national parks are derived from an analysis of existing information to see whether they meet current criteria for cultural significance. These criteria are based on those in the *Australian Heritage Commission Act 1975* to refer to qualities and attributes possessed by places that have aesthetic, historic, scientific or social value for past, present and future generations. ( See Table 4, Section 3.3). These values may be seen in a place's physical features, but can also be associated with intangible qualities such as people's associations with or feelings for a place. Indigenous places may have other layers of significance as well as those mentioned here; these meanings are defined by the indigenous communities themselves.

Cultural significance is a concept which helps in estimating the value of places. The places that are likely to be of significance are those which help provide an understanding of the past or enrich the present, and which will be of value to future generations. The criteria address the values of cultural significance and the meanings of these values are described as follows:

### **Aesthetic value**

This comes from people experiencing the environment and includes all aspects of sensory perception, visual and non-visual, and may include consideration of the form, scale, colour, texture and material of the fabric; the smells and sounds associated with the place and its use; emotional response and any other factors having a strong impact on human feelings and attitudes.

### **Historic value**

A place may have historic value because it has influenced, or been influenced by, an historic figure, event, phase, period or activity. It may also have historic value as the site

of an important event. For any given place the significance will be greater where evidence of the association or event survives *in situ*, or where the settings are intact, than where it has been changed or evidence does not survive. However some events or associations may be so important that the place retains significance regardless of subsequent treatment, such as with massacre or explorers' landing sites.

### **Scientific value**

The scientific or research value of a place will depend upon the importance of the data involved, on its rarity, quality or representativeness, and on the degree to which the place may contribute further substantial information about environmental, cultural, technological and historical processes.

### **Social value**

This embraces the qualities for which a place has become the focus of spiritual, political, national or other cultural sentiment to a majority or minority group. It is a special meaning important to a community's identity, perhaps through their use of the place or association with it. Places which are associated with events that have had a great impact on a community often have high social value.

Indigenous values are embodied in the cultural, spiritual, religious, social or other importance a place may have for indigenous communities. Significance must be determined by a relevant indigenous community through consultation.

The Australian Heritage Commission produced a series of technical workshop papers in 1993-94 on heritage values in forested areas – on fauna, diversity in natural heritage, representative vegetation, Aboriginal historical places, representativeness and Aboriginal archaeological sites, social value, and aesthetic value. These papers are important reference documents for those working in the heritage identification and assessment areas.

In order to address the integration of heritage values expressed in any one place irrespective of whether they are natural, historic or indigenous, the Australian Heritage Commission hosted a National Heritage Convention in August 1998. The Convention agreed on a set of national principles and standards for the protection of Australia's heritage which will help unify the way in which heritage places are conserved. With the enthusiastic participation of indigenous representatives, the principles and standards included key elements important to them.

The national principles and standards will underpin the National Heritage Strategy, which was one of the significant outcomes of the 1996 COAG or Council of Australian Governments formal review of Commonwealth roles and responsibilities for environmental protection including heritage matters. While in many jurisdictions there are different laws and standards for the protection of natural, indigenous and historic heritage, this separation is not one which is generally welcomed or indeed understood by the community. Although all States and Territories now have statutory lists of cultural heritage, they do not by and large have such lists for places of natural heritage. The

national principles and standards aim to cover these differing circumstances. They are outlined in Appendix 1.

Australian landscapes are the result of 60,000 years of indigenous, and 200 years of “European” interaction with the environment. As such, they are cultural landscapes that can only be managed and understood effectively if the interactions between cultural and natural components are recognised and valued. Recognition that landscapes result from the interaction between culture and nature is fundamental to the goals of ecologically sustainable development. Eliminating the opposition between nature and culture makes the achievement of a durable ‘stewardship’ among land managers far more likely.

## **2.7 Summary of Cultural Site Information**

The databases for cultural heritage places in the alpine national parks give some indication of identified site types, but the methodology of collection and analysis is not comparable between agencies. Nevertheless, pastoral sites, mining and pathways/routes predominate. It is well known that most of these pathways were based on prehistoric routes used by the Aboriginals in their seasonal occupation of the alpine country.

Some zones of extensive physical evidence of historical activities, such as gold mining, have been identified. Cultural landscape zones have not been formally delineated even though management guidelines have been prepared for them and some areas are obvious, such as Currango and Kiandra in Kosciuszko National Park, Orroral Valley in Namadgi National Park and the suite of Historic Areas gazetted in Victoria.

The lack of integrated data about Aboriginal occupation and use of the alpine areas hinders building a picture of continuity and extent of use from the Pleistocene era to the present.

### **3. CULTURAL THEMES, FEATURES AND ATTRIBUTES THAT DISTINGUISH THE AUSTRALIAN ALPS IN AN INTERNATIONAL CONTEXT**

This section examines the themes, features and attributes of places already identified in the Alps in relation to National Estate values, and relates this knowledge to the international criteria for assessment of cultural values.

#### **3.1 Historic Themes relating to the Australian Alps**

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 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, practices and technologies may have remained intact.

There are several different schemes setting out the main historic themes for the Alps. The themes that were used for the 1991 Jindabyne Symposium on the Cultural Heritage of the Australian Alps (Scougall 1991) 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

There are processes and agents of environmental change shaping the landscape that operate across these themes. Fire, for instance has a strong influence on all of the above themes. In particular, burning is a practice strongly associated with Aboriginal occupation and pastoralism and helps generate the Aboriginal and pastoral cultural landscapes with which we are familiar. Too little is known about the technology and impact of indigenous fire regimes to make an accurate assessment and comparison with pastoral fire management. Indigenous regimes are likely to have been a mosaic of low key (although extensive), small scale (although numerous) 'cool' fires, whereas pastoral fire management practices tended to be less discriminate, often hot and over large areas in single events.

Further research is required to determine the extent of its impact on pre-European landscapes of the Alps.

On a more general level, as part of National Heritage Coordination, the Australian Heritage Commission and State and Territory heritage agencies are using a set of Principal Australian Historic Themes. These 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 themes given above.

### **3. 2 Themes expressed in the Alps cultural landscapes**

The activities 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 3 below.

This table also details the sub-themes that occur within each theme. Examples from each State/Territory are given. This is intended to show how the themes relate to landscape types in the Alps. Cultural landscapes are discussed in more detail in Section 5.

Table 3: Thematic classification suggested for cultural landscape types in the Australia Alps National Parks

<b>THEME</b>	<b>DISTINGUISHING FEATURE</b>	<b>EXAMPLE</b>
Aboriginal occupation	River valley pathway	Snowy River valley
	Rock shelters	Birrigai; Cloggs Cave
	Ridge line sites	Nursery swamp II, Mt Scabby
	River flats campsite, artefact scatters	Thredbo River flats
Exploration and survey	Place given a European name by an explorer	Mt Kosciusko
	Place given a name after a surveyor	Mt Townsend
	route	Barry way
	Crossing place	McKillops Bridge
Pastoral		
*settlement	Homestead complex, shearing shed, yards, dips, salt lick	Currango, Wonnangatta
*transhumance	Hut and mustering yards	Tawonga Huts
*droving	Routes, yards, water supply, vegetation impact	Willis
Mining		
*alluvial	Altered watercourse, water races along contour, eroded and braided creek	Crooked River
*quartz	Shafts, mullock heaps	Good Hope Mine, Dargo
*dredging	Flat, gravelled river course	Gungarlin River, Ovens River north of Harrietville
*settlement	Building footings, street formations, exotic trees, cemetery	Kiandra, Grant
Logging	Sawmill, water race, steam engine and fly wheel remains, brick chimney footings, hut remains, sawdust pile	Kelly's Providence Mill on Alpine Creek
Silviculture	Uniform forest age-class structure and species composition	Connors Plain
Water harvesting		
*hydro-electricity	Dam walls, reservoirs, steam gauges, diversion weir, pondage, tailrace, tunnel, surge tank, valve house	Rocky Valley, Tumut Ponds Kiewa River Scheme, Snowy Mountains Scheme
*water supply	Reservoirs, pipelines and valves	Lake Catani, Mt Buffalo
Recreation and tourism	Lookout, walking tracks, chalets, ski runs	Kosciusko Chalet, Mt Franklin Chalet and ski runs
Communication	Telephone poles, tracking station	Orroral Valley
Transport	Bridle tracks	Wheller's Creek, McMillan Track
	roads	Barry Way
	Tunnel	Bluecow Skitube
Conservation and science		
*vegetation trials	arboreta	Pryor's, Brindabella
*impacts of exploitation	Exclosure plots	Maisie Fawcett's at Pretty Valley
*soil conservation	Star pickets	Monitoring points, Carruther's Ridge; Mt Twynam
*alpine vegetation studies	Treeline plots	R.Slayters on Main Range, Pulsford's on Lower Snowy
*geological studies	Road cuttings	Carbon 14 dating sites, Geehi Road

### 3.3 National Estate values

The significance of the natural, historic and Aboriginal heritage of much of the Australian Alps has been recognised by its listing in the Register of the National Estate maintained by the Australian Heritage Commission. However, the assessment of all National Estate values of the Australia Alps is not comprehensive. Section 2.4 illustrates the patchy coverage. A rigorous assessment would be an important step in the development of our understanding of the possible World Heritage values of the area. As Bruce Davis (1989:69) has suggested:

*It is almost inevitable that in cataloguing places of national value, a few prime areas prospectively of world comparative quality may be identified.*

In the Hope Report of the National Estate, the International Estate was recognised as a component of the National Estate. The Report states that the three components of the cultural and natural environment forming the National Estate includes those places which are:

*Of such outstanding world significance that they need to be conserved, managed and presented as part of the heritage of the world.* (Committee of Inquiry into the National Estate 1974:35)

This is borne out by the fact that all of the 13 current World Heritage properties in Australia are also listed on the Register of the National Estate and were before their international listing. However, World Heritage value is comprised of attributes of “outstanding universal value” and this does not equate to National Estate values. The criteria for National Estate listing are outlined in Table 4.

Table 4: CRITERIA FOR THE REGISTER OF THE NATIONAL ESTATE
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A place that is a component of the natural or cultural environment of Australia is to be taken to be a place included in the national estate if it has significance or other special value for future generations as well as for the present community because of any of the following:

- (a) its importance in the course, or pattern, of Australia's natural or cultural history
- (b) its possession of uncommon, rare or endangered aspects of Australia's natural or cultural history
- (c) its potential to yield information that will contribute to an understanding of Australia's natural or cultural history

- (d) its importance in demonstrating the principal characteristics of:
  - (i) a class of Australia's natural or cultural places; or
  - (ii) a class of Australia's natural or cultural environments
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period
- (g) its strong or special associations with a particular community or cultural group for social, cultural or spiritual reasons
- (h) its special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history.

### 3.4 World Heritage values

A different set of criteria apply for assessment of World Heritage values. Table 5 gives a summary of these, but Appendix 2 contains the full text.

Table 5: WORLD HERITAGE LIST CRITERIA for cultural properties
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1. Represent a masterpiece of human creative genius
2. Exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design
3. Bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared
4. Be an outstanding example of a type of building or architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history
5. Be an outstanding example of a traditional human settlement or land-use which is representative of a culture (or cultures), especially when it has become vulnerable under the impact of irreversible change
6. Be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance
  - and
  - (i) meet the test of authenticity in design, material, workmanship or setting and in the case of cultural landscapes, their distinctive character and components;
  - (ii) have adequate legal and/or traditional protection and management mechanisms to ensure the conservation of the nominated cultural properties or cultural landscapes.

In 1994 the World Heritage Committee adopted a Global Strategy which advocated thematic studies as a means of obtaining a more representative World Heritage List. The Committee recognised that there was a predominance of monuments of European

architecture and grand, spectacular landscapes, but a dearth of African, Asian and Pacific places as well as few from the past few centuries. They also recognised that traditional cultures with their depth, complexity and diverse relationships with their environment were hardly represented at all. In order to address the imbalance, the following themes were identified as gaps which needed filling:

#### **Human coexistence with the Land**

- Movement of peoples (nomadism, migration)
- Settlement
- Modes of subsistence
- Technological evolution

#### **Human Beings in Society**

- Human interaction
- Cultural coexistence
- Spirituality and creative expression

The Australian response to these themes has been to develop the methodology and Australian examples of the themes as outlined in Appendix 3. In addition, the World Heritage Committee has funded regional thematic meetings: in Manila - April 1995, in Vienna - April 1996, in Fiji – July 1997 and at Arequipa/Chivay in Peru - May 1998.

### **3.5 The Assessment of World Heritage Cultural Values**

The workings of the World Heritage Convention rest on one central element – that is, the determination or assessment of ‘outstanding universal value’.

Assessing whether cultural heritage is of outstanding universal value is an extremely difficult task – a task that has been described as an exciting intellectual enterprise (Parent 1988:32). By comparison the assessment of natural heritage is more straightforward as quantitative criteria such as size and quality can often be relied upon. The value of natural places may, for example, be assessed using the quantifiable determination of its biodiversity. However, culture is not, and cannot be, considered in terms of quantity, size or age.

In recognition of this potential problem Paragraph 6 (i) of the Operational Guidelines (UNESCO 1997), states that the Convention does not intend to provide for the protection of all properties of great interest, importance of values, but only for a select list of the most outstanding of these from an international viewpoint.

#### **Outstanding universal value**

The concept of outstanding universal value is not actually defined within the text of the World Heritage Convention. However, in accordance with Article 11(2) of the Convention, a set of criteria have been established by the World Heritage Committee as a means of establishing whether a place is of universal cultural value. The criteria currently

in use are presented in the *Operational Guidelines for the implementation of the World Heritage Convention* (UNESCO 1997).

The Operational Guidelines were prepared for the purpose of informing States Parties to the Convention of the principles which guide the work of the World Heritage Committee in establishing the World Heritage List, the List of World Heritage in Danger and in granting international assistance under the World Heritage Fund. The 139 numbered paragraphs of the Operational Guidelines also provide details on other questions, mainly of a procedural nature, which relate to the implementation of the Convention.

The criteria to be met for nominating cultural places to the World Heritage List as established by the Operational Guidelines are outlined in Appendix 2. These criteria highlight the definition of the expression ‘outstanding universal value’ as a subtle but intentional combination of the notions of exceptional uniqueness and exceptional representativeness interwoven with the idea of the common heritage of humankind. They do not just refer to rare places.

### **Indicative or tentative lists**

The success of these criteria in assessing whether a place is of outstanding universal value depends on the experience and ability of those individuals nominating places to the List in being able to decide what is ‘unique’, ‘great’, ‘exceptional’ and/or ‘outstanding’. To make informed assessments of this nature on a global scale is extremely difficult. The compilation of indicative lists and the World Heritage Committee’s *Global Strategy and Thematic Studies for a Representative World Heritage List* (1994) assist in the comparative assessments of cultural places on a global scale.

Indicative lists are not generally legally binding for the States Parties, nor are they restrictive as the list can be enlarged or reduced at any time. However, in Australia which is the only State Party to enact domestic legislation concerned solely with the protection and conservation of World Heritage properties, there has been some reluctance in formulating such a list because places entered on it might be interpreted as being subject to the provisions of the 1983 *World Heritage Properties Conservation Act*.

### **Cultural Continuity**

The World Heritage Convention was criticised for its narrow interpretation of culture and its failure to address the concept of cultural continuity. The World Heritage nomination of Kakadu National Park, the Willandra Lakes Region and the Tasmanian Wilderness National Parks according to cultural criterion (iii) which includes the notion of a ‘civilisation which has disappeared’ (UNESCO 1997: para 24) highlights this deficiency. Sullivan (1990) and McBryde have commented that the significance of Kakadu National Park resides not only in Kakadu’s sacred sites but also in the way the ‘the region as Aboriginal land symbolises Aboriginal control over such important places and the survival of Aboriginal communities as political, social and spiritual entities’ (McBryde 1990:15). Cultural criterion (iii) did not in any way express the significance of Kakadu, as

enunciated by Sullivan and McBryde, or any other cultural landscape in Australia including places such as the Australian Alps, as a place symbolically representative of the continuing survival of Aboriginal culture in Australia.

However, in recognition that the World Heritage cultural criteria failed to incorporate the idea of cultural continuity from prehistoric times to the present-day existence of living traditional cultures, particularly in countries such as Australia, New Zealand, the USA, Canada as well as many countries in Asia, the Pacific region and Africa with indigenous populations, the criterion 24 (a) (iii) was altered to read "...a civilization which is living or which has disappeared". Criteria are being expanded to ensure that places displaying outstanding cultural continuity are recognised as such when being nominated to the World Heritage List. This is in accordance with the global strategy outlined in the preceding section.

The relisting of Uluru–Kata Tjuta for its associative cultural values (criterion 39 (iii)) highlights how such landscapes are included by virtue of the powerful cultural and spiritual associations of the natural element.

### **Combined cultural and natural value**

The World Heritage Convention 'makes a significant innovation in linking together what were traditionally regarded as two quite different fields – the protection of the cultural and natural heritage' (Slayter 1984:734).

There is a separate set of criteria for assessing the world's natural heritage and paragraphs 6 (iii) and 15 of the Operational Guidelines request that efforts be made to maintain a reasonable balance between the numbers of cultural heritage and natural heritage places entered on the World Heritage List. In addition paragraph 18 of the Operational Guidelines (UNESCO 1999) states that:

*In keeping with the spirit of the Convention, State Parties should as far as possible endeavour to include in their submissions properties which derive their outstanding universal value from a particularly significant combination of cultural and natural features.*

Four of Australia's 13 World Heritage properties are listed for both natural and cultural values: Tasmanian Wilderness, Willandra Lakes, Kakadu National Park, Uluru- Kata Tjuta National Park. Of these, Uluru-Kata Tjuta is particularly important due to its renomination as an associative cultural landscape subsequent to its original nomination for its natural values. Its current listing overtly emphasises interacting natural and cultural values, although in the original nomination the cultural values of the property were evident. In Australia's other "mixed properties," there is also considerable interaction and overlap between the cultural and natural values. This is expressed in the particular characteristics of the places that give them their heritage value and their management, even if it is not expressly emphasised in the formal nomination document. In practical

terms, it may be argued that natural and cultural values in some Australian World Heritage properties already reflect “a unified or a harmonised set of criteria” (Sullivan, 1998: 1).

The implementation of the Convention in Australia suggests that natural and cultural values form a conceptual continuum. The notion of a ‘cultural landscape’ sits comfortably within such a continuum. In most cases, the unique natural features found at Australian mixed properties either form an integral part of the cultural values, provide the context that gives the cultural values their particular significance, or at the very least, have contributed substantially to the preservation of the cultural values. (Sullivan, 1998: 4) This is illustrated by the presence of rock art or rich midden deposits.

In Africa nature and culture are considered inseparable. Natural heritage is the very basis of cultural heritage because African civilisations have always been closely attached to their natural surroundings from which they draw materials and inspiration. An animal lacking taboo protection is destined for extinction and similarly a forest unprotected by the spirits is good firewood (Munjeri, 1998: 18).

At its March 1998 meeting in Amsterdam, the World Heritage Bureau recommended that to ensure greater recognition of the continuum of, and interactions between, culture and nature with respect to the implementation of the *World Heritage Convention*, the criteria for natural and cultural properties be unified into a single list of ten criteria (without changes to the wording of the existing criteria), that the conditions of integrity (to include the notion of authenticity, as appropriate) be related directly to each of the criteria and that sections C and D of the *Operational Guidelines* be revised. They further called for an anthropological approach to the definition of cultural heritage and people’s relationship with the environment.

### **Test of Authenticity**

As well as meeting one of the criteria in paragraph 24 (a), a nominated property/place must meet the test of authenticity –paragraph 24 (b)(i). With regard to a cultural heritage monument, authenticity can be ambiguous. If authenticity is taken to mean of ‘undisputed origin, genuine, lacking adulteration’ hardly any monument as it stands today can be said to be authentic. The environment in which most of today’s cultural monuments were originally erected has been changed by time, natural disasters, human destruction. Many heritage monuments present themselves to us today in isolation from their original urban or rural environment, from their original purpose and from their social context –they are alien to daily routine and present themselves to us as ruins. Their ‘personality’ has changed and exists only in the minds of beholders. So it can become subjective and therefore not authentic.

Heritage is also what past generations have preserved, and sometimes altered. Hence “*the valid contribution of all periods to the building of a monument must be respected...*” (The Venice Charter, article 13). The personality of a monument changes according to the amount of knowledge and interpretation of today’s individual beholders. So “*knowledge and understanding of sources of information, in relation to original and subsequent*

*characteristics of the cultural heritage, and their meaning, is a requisite basis for assessing all aspects of authenticity*" (The Nara Document on Authenticity, 1994, article 9). There are *"less evident documentary values that require an understanding of the historic fabric in order to identify their meaning and their message...it is important that the material evidence, defined in terms of design, materials, manufacture, location, and context be preserved in order to retain its ability to continue to manifest and convey those concealed values."* (The Declaration of San Antonio, B.3) Therefore it seems that there must be a dual authenticity: documented historic authenticity and material authenticity, both equally important and complimentary (Demicoli, 1998:22-3).

Application of the test of authenticity raises some difficulties when applied to Australia's cultural sites and cultural landscapes. These sites have long histories and complex associated values, particularly in the case of indigenous sites. Prior to 1994, the "test of authenticity" was seen as a conceptual construction primarily directed towards built architectural and artistic monuments, arguably with a bias towards certain values associated with such monuments in particular cultures, for example, medieval Christian. In contrast to monuments of this type, Australian Aboriginal cultural sites do not represent a built heritage, but rather a process of close interaction between people and their environments over along period of time. In many instances, the cultural values are manifestations of the ability of people to respond effectively to the challenges and opportunities presented by their natural environment. The statement in the preamble to the Venice Charter that *"the historic monuments of people remain to the present day as living witnesses of their age-old traditions"* is applicable to a range of values, whether related to built monuments or landscapes shaped by generations of interaction between people and the natural environment. Many Indigenous Australians see the presence of cultural sites in the landscape as evidence of their direct and continuing link between the present and the ancient past. This is also the case with the Inca descendants in the Andes.

In the 1989 Tasmanian nomination, it was noted that *"the wilderness quality which underpins the success of the area in meeting all four criteria as a natural property...is the foundation for the maintenance of the integrity of both natural and cultural values which are displayed."* This interaction is demonstrated by the following:

*"... the environmental and cultural changes that led to the shift of Aboriginal occupation patterns in the past, and the difficult nature of much of the terrain have combined to maintain the integrity of the cultural resource of the area...The remote and difficult terrain which dominates the nominated area, together with its great size and variety of habitats, provides significant protection for the natural heritage values."*

So it was argued that the wilderness characteristics that make up an important part of the natural heritage significance of the property are the same characteristics that provided the challenges which gave rise to significant cultural adaptations. European ideas of wilderness are based on a cognitive landscape whose roots lie in biblical notions of civilization and its opposing wild-ness. Many Indigenous Australians consider the notion of wilderness as alien and abhorrent. In the context of South West Tasmania, it is important to note that the term "wilderness" does not connote exclusion of people from

the landscape. Rather, wilderness areas are large areas in which ecological processes continue with minimal change caused by modern development. Indigenous custodianship and customary practices have been, and in many places continue to be, significant factors in creating what non-indigenous people refer to as wilderness. For the traditional occupants these practices demonstrate authenticity in 'caring for country'. This supports the argument that natural and cultural values form a conceptual continuum rather than discrete concepts (Sullivan, 1998:2-3)

### **Is there evidence to apply the conceptual continuum argument to the Australian Alps?**

John Banks has noted that the historical fire record for the Alps is fragmentary and, despite Surveyor Townsend's observation of Aboriginal fires in 1846, the first bushfire was not recorded in the Brindabella Ranges until 1858- that is 40 years after the initial squatting settlement. Fire frequency increased with the arrival of pastoralists and prospectors/miners from the mid- nineteenth century and decreased with increasing conservation management from the mid- twentieth century. The Australian Alps landscapes offer a rare opportunity to study the impact of three cultural periods on a unique biota - Aboriginal pre-European, European exploiter and European conserver eras. Banks also notes that the effect of fire increase is site dependant and generalised conclusions might lead to erroneous conclusions being made as not all forests/woodlands have experienced the same level of burning. There is an urgent need to identify areas which have been little affected by European burning as these 'islands' are benchmarks of pre-European plant communities (Banks, J.C.G., 1989:270-278).

Cattle grazing did enormous damage to the herbaceous vegetation and soils of the snow leases on the Main Range area of Kosciuszko. The Kosciusko State Park was established in April 1944 and the Snowy Mountains Authority in 1949. The latter was very concerned about grazing affecting water yield and siltation of dams and an early objective of the Authority was the removal of stock and control of fire in the catchments. However grazing was not totally abolished in the park until 1969 (Mosley, 1989:346-9).

Sue Barker's study of snow gum woodland has shown that although the park was only grazed for about 100 years and is now recovering from those impacts, the effects of fire are more long-lasting. Past woodlands were much more open than those found today as can be seen in the numbers and spacing of lignotuber rings of fire induced regrowth, of dead stags and of old but fire damaged trees. Present woodlands are very dense by comparison with stem densities five to fifteen times more dense than pre-disturbance densities. This has been caused by repeated fires and the massive seedling regeneration following cessation of grazing. While seedlings are now thinning, the fire generated lignotuber regrowth will thin very slowly for the next 100 to 200 years by which time it may regain its pre- European fire density pattern (Barker, 1989: 369).

Australian history is a continuum from the Pleistocene to the present and elimination of evidence for human occupation is an emotional not a scientific response. Despite investigating change from the perspective of the Pleistocene geological time scale, it is

the European historic period which is the focus for contemporary heritage conservation. For many this European period signifies the speedy transformation of a once pristine, balanced environment into today's landscape with its attendant needs for conservation, restoration and land care.

Tim Flannery has argued that wilderness as defined by the IUCN simply does not exist in Australia where the land has been actively and extensively managed for 60,000 years and to manage it in reserves by leaving it untouched will be to create something new and less diverse than that which preceded it (Flannery, 1994:379). Disturbance may result in cultural heritage. It provides a reference point from which to measure change. Knowing the date on which grazing was prohibited finally in Kosciuszko gives us a benchmark from which to measure subsequent vegetation regeneration; knowing the date on which the Sludge Abatement Board stopped hydraulic sluicing at the Oriental Claims near Omeo provides a benchmark from which to measure the variation in down-stream siltation; knowing the date of construction of extant buildings in Kiandra provides a benchmark from which to measure the structural longevity and durability of building components in harsh climates(Lennon, 1996: 4)

Evolving landscapes are part of the cultural experience and letting nature take her course is a test of authenticity.

### **3. 6 Are the Australian Alps of outstanding universal value?**

The Australian Alps have been suggested for nomination as a World Heritage area on the basis of their natural values on a number of occasions (see for example Australia Academy of Science 1977:23; Johnson 1988; Mosley, 1988;1989; Kirkpatrick,1994). In the late 1980s the Alps were included on a number of unofficial Australian indicative lists, including one prepared by the Australian Conservation Foundation (Mosley 1988:10). The perception of the Australian Alps as a potential World Heritage nomination on the basis of its cultural as well as natural values is however much more recent.

A number of themes in the cultural history of the Australian Alps had been identified prior to the Jindabyne symposium on the cultural values of the Australian Alps in 1991 (Davies 1986:8-10; Davey 1986:30-2). The themes include prehistoric Aboriginal occupation, early European exploration, stock grazing and movement, and natural resource exploitation, surveying and engineering, recreation and tourism and finally conservation history. Superficially similar cultural sequences can be identified in several other alpine landscapes around the world, for example, the Central Pyrenees of Spain (Chocarro et al. 1990) and the Pyrenees –Mont Perdu border region; the Lednice –Valtice Cultural Landscape Area of South Moravia, Czech Republic; the Hallstatt-Dachstein Salzkammergut Cultural Landscape of Upper Austria; cultural landscapes in the Andes.

Titchen (1991:50) posed a series of relevant questions to be answered in relation to advancing a case for World Heritage listing of the Australian Alps on cultural values of outstanding universal significance:

- Is the cultural heritage of the Australian Alps of outstanding universal value when evaluated alongside the alpine landscapes of the European Alps or the Himalayas?
- Which one of these alpine cultural landscapes is the most significant, or alternatively are each of these places unique and deserving of inclusion on the World Heritage List?
- How does this landscape compare with that of the Central Highlands of Tasmania – an area already included in the Tasmanian Wilderness National Parks World Heritage Area and the only other alpine region in Australia of a comparative nature to that of the Australian Alps?

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 distinctive patterns of evidence on the landscape, reflecting the unique combination of social, economic, political and technological influences.

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 continental context.** The only other area in which Australian alpine environments occur 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 international significance as well as those already recognised in Tasmania. However, any discussion of the uniqueness of the Australian Alps should examine the values and nature of regional alpine areas, in Papua New Guinea and New Zealand, and human interaction with those environments. In the highlands of Papua New Guinea, archaeological investigations at the rockshelter of Nombe have revealed records of human activity over 25, 000 years (Gillieson and Mountain, 1983).

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 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 bush walkers (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 alpine 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 Australia Alps as both **barriers and pathways** for a wide range of human endeavours, including trade paths, stock routes, and recreation corridors.

**Significance may relate to cultural associations as well as to the intrinsic physical qualities of a place** – this is the associative cultural values referred to in the World Heritage criteria. The Alps, for instance, feature predominantly in Australia’s ‘heritage of inspiration’ – as evidenced in Chevalier and von Guerard’s paintings, or Banjo Patterson and Campbell’s poetry. The Australian alpine landscape was interpreted and appropriated through European eyes and this process built up a national romantic attachment to the culture of the high country through icons such as the Man from Snowy River. Indigenous views of the Alps as ‘country’ were disenfranchised although the romance of the moth hunters was seen as part of the European scientific discovery of the unique culture of the Alps.

The answer to the question of whether the Australian Alps are of outstanding universal value and therefore worthy of World Heritage listing lies in presenting a case based on integrating the natural and cultural criteria along the continuum suggested in Section 3.5 above. Australian landscapes illustrate the interaction of cultural and natural values and researching components of this interaction from the Pleistocene to the present will highlight those aspects of outstanding universal value.

## 4. CURRENT AUSTRALIAN THEMATIC METHODOLOGY FOR WORLD HERITAGE ASSESSMENT

The preceding section has shown how places on the World Heritage List are defined as those which have **outstanding universal value**. The UNESCO World Heritage Committee, in evaluating whether a place nominated to the World Heritage List has outstanding universal value, uses a short-hand way of considering this level of significance by asking ‘is this place the “best of the best” in the world?’

The framework on which the Australian methodology is based was originally developed by Domicelj, Halliday and James (1992) and is outlined in their report entitled *Framework for the assessment of Australia’s cultural properties against World Heritage Criteria*. The thematic approach is consistent with those being used globally to assess World Heritage value. While the original Domicelj et al. (1992) study concentrated in places with cultural values, the methodology is a generic one. It has been adapted in the Regional Forest Assessment process for the World Heritage work to assess outstanding universal natural value as well as cultural value in forested lands (Commonwealth of Australia, 1998:1). It has also been used in the 1998 nomination for Australian convict sites. It could be applied to any typological category such as alpine areas or goldfields.

The thematic methodology represents a systematic, comparative and efficient means for identifying places that meet the criteria and operational guidelines of the World Heritage Convention. The methodology assesses significance by developing themes of outstanding universal value and then testing places against these by working through a series of steps, which include tests drawn from the Operational Guidelines for the World Heritage Convention. A sieve model is used and places which do not meet particular tests of significance; integrity and authenticity are discarded at various steps. The steps in the thematic methodology are summarised below:

Step A - Identify themes of outstanding universal value relating to natural and cultural values of Australia

Step B - Identify places where further work is needed to determine whether they are the best global expressions of the themes of outstanding universal value

Step C - Determine, with reference to the World Heritage Criteria, which of those places identified in Step B have integrity and authenticity and identify existing legal protection and management mechanisms

Step D - Evaluate the significant places selected in Step C by consideration of their global context, and identify those essential and/or integral to a theme of outstanding universal value.

Step E - Assess the places selected in Step D against definitions in Articles 1 and 2 of the World Heritage Convention and the criteria in paragraphs 24(a) –historic, 39 –cultural landscapes, and 44(a)- natural, of the Operational Guidelines.

Application of the thematic methodology in the Regional Forest Assessment process has involved the use of an Expert Panel to undertake Steps A and B. The Expert Panel advised governments of themes of outstanding universal value, and of places that require further assessment as possible best global expressions of the themes. Places identified in Step B might not in themselves have World Heritage values. Only places that meet the requirements of all the steps of the methodology, including the final step involving a formal assessment against the criteria, and operational Guidelines are likely to have World Heritage value.

For the forest studies, the further steps of the methodology (Steps C, D and E) will be undertaken at a later date, as Regional Forest Assessments are completed and joint assessment processes are agreed between the Commonwealth and relevant State Governments.

The Australian World Heritage Expert Panel agreed on seven themes for use in considering “outstanding universal value” in forested areas. These global themes and their sub-themes are listed in Appendix 3 along with the text elaborating the themes relevant to cultural values.

## **5. TOWARDS A NEW APPROACH TO THE ASSESSMENT OF INTERNATIONAL SIGNIFICANCE OF THE CULTURAL VALUES OF THE AUSTRALIAN ALPS.**

The Australian Thematic Methodology for World Heritage Assessment as outlined in the preceding Section has been adopted as it is the current standard and was used in the assessment of Australian forests and Australian convict sites. The following section will apply the methodology using the Steps to cultural values expressed in the Australian Alps.

### **Step A: Identify themes of outstanding universal value relating to cultural values in the Australian Alps**

The following themes have already been agreed to by the World Heritage Unit of Environment Australia and several new sub-themes are also suggested given the historical evidence in a universal context:

Theme: Traditional human settlement and land use

- Sub-theme: Complex persistence of hunting-and-gathering society on a single continent
- *New sub-theme: Continuity of a seasonal land use pattern*

Theme: Artistic expression

- Sub-theme Rock art

Theme: Religious expression

- Sub-theme: Dreaming sites

Theme: European expansion of the eighteenth and nineteenth centuries

- Sub-theme: Forced migration – a major way in which the expansion took place
- Sub-theme: Land barriers as historical themes
- Sub-theme: Integration of a continent into global economy
- *New sub-theme: Transhumance*
- *New sub-theme: Utilizing alpine resources*
- *New sub-theme: Scientific research in alpine areas.*

These themes and sub-themes will now be examined in relation to known evidence from the Australian Alps.

## 1.Theme: Traditional human settlement and land use

Sub-theme: Complex persistence of hunting-and-gathering society on a single continent.

Australia provides the only example of where hunting-and-gathering way of life has dominated an entire continent up to modern times. This way of life continues to play a significant role in the occupation of the continent, particularly in its northern and central sections.

Aboriginal people were living on the fringes of the Australian Alps 21,000 years BP given the evidence from the Birrigai shelter in the ACT. In the Snowy River valley in Gippsland, Victoria 17,000 year old stone artefacts have been recorded (Flood, 1992:84). Three views of the occupation of the region have been advanced.

Using archaeological evidence and ethnographic research, Flood (1980) suggested that the alpine highlands were the focus for large gatherings of people who exploited the aestivating Bogong moth (*Argotis infusa*) as part of social and ceremonial gatherings. She acknowledged that while other resources were available, the moths present during the summer months when the highlands were occupied were the main sustenance. Bowdler (1981) proposed that the 'harsh environments' could only have been exploited on the basis of two 'adaptation subsystems': availability of communal foods in vast quantities to facilitate large gatherings for ritual and social purposes, and availability of dependable, staple foods such as the daisy yam (*Microseris lanceolata*). Neither of these models has been tested because crucial evidence is not detectable in the archaeological record – both moths and daisy yams are likely to have been fully consumed, and the primary tool for yam extraction, the digging stick is not normally preserved in archaeological sites (Argue, 1995a:31).

However, Flood suggests that pebble manuports found at both camp sites in the highlands and as isolated finds are moth pestles (Flood, 1980:208), while Argue (1995b: 38-40) described a rare find of a possible digging stick at the base of a high cliff in the ACT high country. Flood's ethnohistorical research also shows the concentration of accounts of Bogong moth consumption, but these early European accounts may reflect their attitudes towards moth consumption as an extraordinary and surprising culinary feature, while more predictable and familiar foods were less worthy of comment.

Bowdler's concept of harshness is no longer supported by reviews of the extensive biotic resources of the highlands and the year round availability of supplies of plant and animal foods in which Bogong moths are the exception. Argue (1995a) suggests that occupation was concentrated in the valleys of the highlands where the archaeological evidence suggests that a range of domestic activities occurred. During summer months, the region was the focus for the gathering of peoples for ceremonial activities, while the higher plateaux were the focus for a narrower range of activities occurring while people made short stay camps.

Birrigai rockshelter was probably used as an occasional hunting camp by small groups of Aboriginal groups throughout the period from 21,000 years ago to the middle of the nineteenth century. This extraordinary span of occupation resulted from the site's topographic position and its actual form. It seems to be virtually the most northerly rockshelter in the Alps and would have been an ideal base for hunting on the Southern Tablelands, or on the journey from the coast to the inland riverine plains. Flood (1992) believes that it is certain that Aboriginal people were at least occasionally visiting the foothills of the Australian Alps around the height of the last glaciation. They may even have gone higher in summer to hunt on the alpine grasslands.

This is the pattern recorded in Tasmania where archaeological evidence has shown that people hunting red-necked wallaby were living within sight of the glaciers during the last glaciation (Allen, 1993:55-6). The oldest occupation site in Tasmania is more than 30,000 years old and evidence of rock art and associated ritual have been found deep inside a number of limestone caves containing Pleistocene occupation deposits (Jones, 1993:51). Flood also believes that the lack of similar sites in the Australian Alps would seem to be more a function of a lack of habitable caves in the high country rather than a real lack of human occupation during the Pleistocene (Flood, 1992:85). However, Argue (pers.comm.) points to the abundance of rock shelters in the Alps and the number recorded in the database for Namadgi National Park and the need for further research.

In the Snowy Mountains (the name given historically to the Main Range area of what is now Kosciuszko National Park), with Mt Kosciuszko the highest peak at 2229m, archaeology has only revealed the last 4500 years of prehistory (Kamminga, 1992:114). Other than the Pleistocene date for Birrigai, the limited number of excavations in the region (eight in total) have yielded Holocene dates and Argue (1995a, 33-4) believes that this is not enough on which to base theories of length of time of occupation.

Kamminga (1992:114-115) believes that there is not enough evidence to assume that plants and animal resources in the mountains were less abundant during the Early Holocene than later. Because winters were milder in the Snowy Mountains during the mid Holocene from 8700 BP until 6500BP and possibly until 4500BP, and the area of snow cover much reduced, it is possible that many animal species of the tablelands were more abundant or available for longer periods than in modern times. Between about 23,000 and 15,000 years ago the highest peaks of the Snowy Mountains were glaciated above an altitude of 1900 metres. Glaciation here was mild and limited in comparison to that of the Northern Hemisphere and not so obvious from the topography. The climate then was harsh with cold, windy and dry conditions prevailing. Yet at this time the edge of the central Tasmanian highlands was inhabited and Birrigai was occupied. The people who colonised the Tasmanian valleys under glacial conditions were then the southernmost humans of the Late Pleistocene world as the dating of sites in South America claimed to be Pleistocene is controversial according to Rhys Jones (1993:51). The subalpine and vegetated alpine environments in eastern Australia were vastly expanded during this time (see Hope, 1988) and grasslands and open woodlands extended from the lower montane valleys to surrounding tablelands and beyond and were able to provide ample plant foods.

Kamminga (1992:117) concludes that it is likely that evidence for Late Glacial Maximum era (more than 20, 000 year old) occupation sites will be found in at least the lower altitudes of the Snowy Mountains and that different adaptive strategies and regional technologies developed very early during the human colonisation of Australia. He assumes that any existing Pleistocene sites in the Snowy Mountains have 'low visibility' and, on present evidence, Pleistocene stone artefact assemblages will not be immediately apparent other than by the absence of elements such as microliths and microblades debitage which are diagnostic of more recent occupation. In addition, because of erosion from the Late Pleistocene and Aboriginal burning from the Late Holocene (4500 BP to the present), slope runoff would have led to increased sedimentation along watercourses and consequently, prehistoric sites are now buried under layers of alluvium and marsh sediments. As these deposits are currently only subject to moderate erosion there is little likelihood of chance discoveries. However, Argue (pers.comm.) challenges the concept of slope runoff causing increased sedimentation rendering sites invisible because of the lack of knowledge of Aboriginal burning practices and their effects in the area and lack of time depth for Aboriginal occupation. To test this concept there is a need for geomorphological studies along watercourses in the area.

Besides the archaeological record of human occupation in the Australian Alps, there is the pattern of enduring links of hunting and gathering societies to the seasonal use of the alpine areas to be considered. Flood located small stone artefact scatters between altitudes of about 1200 and 1500 metres which she interpreted as 'summer camps' for occupation when harvesting the millions of Bogong moths available during the summer season, while during the winter occupation was below 600 metres in the river valleys. Subsequently, other artefact scatters have been recorded, such as those on Mt Scabby although these have been interpreted as 'quarry' sites.

The ethnographic record shows that the Ngarigo of the Snowy Mountains exploited more intensively the food resources of the upper montane and alpine zones and that they were joined each year by non-resident Ngarigo speakers from the Monaro district, by Ngunawal speakers from the southern tablelands, and Yuin speakers from the south-east coast of Australia while other groups arrived from territory to the south of the Snowy Mountains, such as the Minjambuta and Jaitmathang in Victoria. Altogether, possibly over a thousand Aborigines gathered together at corroboree grounds in the lower montane valleys on the northern fringe of the mountains, such as that at the Kalkite ceremonial ground with its circular stone arrangement near the junction of the Snowy River and Wollondibby Creek and that at the foot of Mt Crackenback in the Thredbo Valley (Kamminga,1992:105-9). They then moved to the 'tops' for Bogong moth collecting.

Arguments have been advanced that social and political factors were more important driving forces for the seasonal movement of Aborigines to the Snowy Mountains and that the importance of the moths was more ideological than dietary, and associated with all-male ceremonies. Undoubtedly the moths were an important food when they were harvested in great numbers but a wide range of other plant and animal foods were

available year round during the Holocene Warm Maximum to 4500 BP as Argue's research has demonstrated (Argue, 1995a).

The annual Bogong moth migration to the Alps may have an antiquity that spans the Holocene period beyond 4500BP (Kamminga, 1992: 111,114-5). It has also been suggested that the Aborigines who visited that high country in summer for Bogong moth feasts were not so much moth hunters but possum hunters. Feary suggests that as the Aborigines were often observed in possum skin clothing when in the mountains, they may have had a basic diet of possum with the Bogong moth feasts as a more ceremonial activity. While this will remain a debated point for some time to come, the fact remains that Aboriginal occupation of the Australian high country including Tasmania is most likely the oldest highland occupation of any extreme climate mountain lands in the world by any Aboriginal peoples (Good, 1992:135). This would confirm the significance of the Australian alpine areas having outstanding universal value with a continuous pattern of human seasonal use. Other ethnographically recorded ceremonial sites, like that at foot of Mt Jagungal in Kosciuszko National Park require further investigation to establish the time span of this summer seasonal migration/visitation from valley bottoms to mountain tops.

Mountain (1991) has reviewed the impact of pre-agricultural hunter-gatherers in Northern Sahulland (that is the name given to the entire Pleistocene continent of Sahul, constituted by present-day Australia, with Tasmania and the island of New Guinea, as well as surrounding land areas now drowned by the Holocene rise in sea level). There is abundant evidence to show that from about 30,000 to 10,000 years ago hunter-gatherers were active well away from the coast in the tropical montane regions at altitudes from 1300m to 2000m and altering the landscape in small areas as early as about 30,000 years ago. These are not the major forest clearances of the later Holocene, when pollen and sediment records clearly show progressive changes from forest trees to grass over a defined area that is irreversible, but individual events in which the pollen diagrams reveal a local change from tree to grass pollen accompanied by a sudden increase in charcoal indicating local firing followed by forest regrowth. Environmental change after the glacial maximum of about 18,000 years ago indicates the rapid demise of much of the sub-alpine zone as the increased temperatures allowed forest growth to occur at higher altitudes. Evidence from Nombe suggests that at the end of the Pleistocene people were actively hunting a wide range of smaller forest species in much larger numbers than during the previous 16,000 years. This response to climate change may well have parallels in the Australian Alps and further site specific investigations may reveal such links.

- New sub-theme: Continuity of a seasonal land use pattern

The current archaeological record of human occupation in the Australian Alps reveals a pattern of enduring links of hunting and gathering societies to the seasonal use of the alpine areas from 21,000 years ago until the middle of the nineteenth century. Then this seasonal migration was taken over by cattlemen moving their herds up to the 'high country' for summer grazing, by scientists undertaking regular summer surveys of the

impact of grazing and fire on the alpine environment, by motorists and bushwalkers enjoying the summer hued scenery of alpine landscapes.

This cultural continuity is also expressed in the landscape by the same features – pathways or corridors - being used by successive occupants over centuries, often undertaking quite different activities, in the pursuit of quite different ends. An example is the subsequent use of Aboriginal pathways by explorers, stockmen, scientists, skiers, motorists and bush walkers. The Alpine Way in Kosciusko and the Ingeegoodbee Track in East Gippsland are examples. The latter had been used by the Ngarigo moving between the Gelantipy district and the Monaro tableland and was later used by McKillop, Macfarlane and Livingstone when they moved stock into the Omeo district in the 1830s (Grinbergs, 1993:26). A.W. Howitt observed in 1876 that Aboriginal access to the northern slopes of the Great Dividing Ranges occurred, ‘as far as I know [using] two or three trails...two of which still form lines of communication for the whites’ (quoted in Mulvaney, 1992:11). Feary has described the large open sites along ridge lines, such as that at the saddle on the northern end of Nursery Swamp, A.C.T., which may be stop-over places en route to the Snowy Mountains, while Walkington’s research on the treeless Monaro plains has revealed the presence of sites associated with a chain of ephemeral lakes on basalt bedrock and associated artefacts used for hunting migratory birds and processing waterplants. Feary believes that in the seasonal round of activities by highland and Tableland Aborigines, people congregated at places where a particular set of resources was abundant and at other times moved into the forests or high country (Feary, 1988:187-9). Thus a cycle of seasonal movement was established. Further research into Aboriginal occupation of the Alps will assist in describing the patterns and intensity of seasonal and altitudinal movements.

## **2. Theme: Artistic expression**

- Sub-theme Rock art

Australia has Aboriginal art sites that represent a unique artistic achievement, as well as providing an outstanding record of human interaction with the environment over tens of thousands of years.

There is no rock art currently recorded in the Australian Alps above the snowline. However, colourful and fairly well preserved Aboriginal rock paintings have been recorded in rock shelters in Namadgi National Park – at Yankee Hat, Rendezvous Creek and Nursery Swamp. Kelvin Officer has conducted definitive research into the distribution and condition of rock art in Namadgi National Park. Birds, animals and humans have been depicted in red, white and black paintings (Flood, 1993:309). The rock art is not distinctive to alpine areas or of particular motifs and can be regarded as typical of the South Eastern Australian rock art province.

### **3. Theme: Religious expression**

- Sub-theme: Dreaming sites

Australia provides an outstanding example of where the religious system of hunting-and-gathering societies is embodied in the landscape.

The enduring links provided by the annual migration to the alpine country to harvest Bogong moths may be cited as a religious expression because of its associated rituals and corroborees. The ethnohistoric sources record two actual routes –via the Snowy River Valley and via the Thredbo Valley. There may be others in the Victorian and northern sides of the Alps. There may have been dreaming tracks associated with the annual migration to the alpine country. However, the anthropological research into this alpine region has been very limited. Further oral history research is required to examine all known and available oral stories.

### **4. Theme: European expansion of the eighteenth and nineteenth centuries**

- Sub-theme: Forced migration – a major way in which the expansion took place

By 1830 European settlers were arriving in the vicinity of the Alps to depasture their flocks and herds and all the large station properties of the Monaro were established. John Lambie was appointed the first Commissioner of Crown Lands for the region centred on Monaro in 1837. Dr Andrew Gibson had taken up Kiandra by 1830 and his friend, Terence Murray took up Coolamine in 1838. In 1845 William Bradley alone reported having 50,000 sheep and 2000 cattle on summer drought refuge pasturage in the Mt Jagungal area (Good, 1992:142). In 1840 Europeans climbed into the highest Alps attracted by the mountains themselves. Count Strzelecki climbed to the top of Mt Kosciuszko and named it on 12 March 1840 (Lennon, 1992:144-6). Publicity following Strzelecki's explorations into Gippsland from the Alps led to pastoral occupation of the Gippsland high country. By the early 1850s most of the Australian Alps had been nominally occupied by pastoralists. Within the parks very few original squatting stations survive. Coolamine was taken up in 1838 and the current homestead built in 1892; Currango in 1850 and it is the largest and most intact example of pastoral settlement above the snowline in Australia with 25 remaining buildings and ruins spanning 150 years of European occupance (NSW National Parks and Wildlife Service, 1993:6); and Orroral run was taken up in 1836 and the homestead built in the 1860s (Higgins, 1992:166-7).

Convicts from Britain were forced to migrate to Australia and in New South Wales were the foundation work force for the expansion of settlement. Convicts also had a role as assigned servants working for squatters in the alpine region, especially in the 1830s expansion from Yass into the Monaro and it could be claimed that they were the compulsory work force for the initial settlers. This use of convicts in alpine squatting

runs would satisfy this sub-theme. W.K.Hancock's *Discovering Monaro, A Study of Man's Impact on his Environment* (1972) outlines the spread of squatting stations into the high country and describes the use of convict labour. Other local histories would have more specific information on assigned convict labour.

- Sub-theme: Land barriers as historical themes

That the Australian Alps were crossed seasonally by Aboriginal groups travelling to Bogong moth feasts and associated ceremonies probably negates its status as a land barrier of the type described in the Australian methodology for World Heritage themes. The Alps were not barriers in the same way that the Blue Mountains prevented settlement expansion.

Topography undoubtedly influenced the way in which people moved through and lived within the Australian Alps. Squatters driving their herds and flocks moved around the Alps with routes to the north along today's Hume Highway, along the coastal plain from southern New South Wales and along the river valleys flowing south from the Alps (Lennon, 1992). They also moved through the Alps along Aboriginal pathways and crossed into Gippsland from the Monaro on these pathways (Grinbergs, 1993). Aboriginal people used ridge lines as routes of movement through heavily dissected country (Hall, 1992) as did the pastoralists and loggers who followed. Terrain has played a major role in shaping the way people interacted with the alpine environment.

- Sub-theme: Integration of a continent into global economy.

The Australian gold rushes are an outstanding example of the global migrations associated with the nineteenth century gold rushes which led to Australia being the world's largest gold producer by the end of the century.

The Panel discussing Australian methodology for World Heritage themes considered that it would be necessary for regional aspects of the gold rushes in Australia to be included in any best global expression of the sub-theme. Alpine gold mining would be considered as part of this assessment, but internationally it would be compared with the Yukon and Siberia. However, Australian alpine gold mining was earlier in its origins with alluvial mining dating from the 1860s followed by quartz reefing, hydraulic sluicing and company mining (Supple, 1992:247). It may have influenced later alpine mining practice elsewhere in the world as well as being influenced by especially American practices.

Kiandra experienced one of the most hectic and short lived gold rushes in Australian history with over 15,000 prospectors and miners on the field within six months of the discovery of payable gold. It constituted a massive human response of endurance and adaptability because at this altitude in Australia, such an enterprise was unique (Mulvaney, 1992:15). However, this alluvial mining period was followed by a sluicing period from 1861 and all mining had ceased by 1906 after some 180,000 ounces of recorded gold had been extracted leaving behind a rich and colourful history of human endeavour (Good, 1992:148-150).

Some of the Victorian alpine goldfields illustrate patterns of isolated settlements along twisting and remote rivers in deeply incised valleys, such as the ‘ghost towns’ along the Crooked River or the failed Dart River –Zulu Creek field. Mt Wills and Glen Wills were the most successful Victorian alpine goldfields due to capital intensive quartz reefing in the latter decades of the century and these areas have the most visible physical evidence of mining remaining.

As well as mining being a force which led to the integration of the continent into the global economy, the pastoral industry also contributed to this integration. Australian wool fed the cloth manufacturing mills of central England in the nineteenth century. At the height of the snow lease-alpine grazing era, there were hundreds of thousands of sheep and tens of thousands of cattle fattened on high country pastures (King, 1959:129). This would probably represent a level of production that would not have been sustained in any other part of the continent at that time (1880s-1920s). It also contributes to the cultural inheritance imbedded in the Australian psyche of the nation ‘ riding on the sheep’s back’.

- New sub-theme: Transhumance.

European shepherds, especially the Scots, migrated to Australia, some as convicts, and were familiar with the harsh alpine climate and seasonal movement of animals. “Transhumance” is a European term relating to seasonal movement of herds and flocks to harvest the summer resources of the alpine meadows below the rocky peaks. King has described the small role that transhumance has played in relief grazing in Australia because there were few tracts of mountain or high plateau pastures sufficiently large to be of value compared to the practice in the USA or Europe (King, 1959: 129). However, from 1889 there was a government controlled system of transhumance in operation via the tendering of snow leases in NSW and King has described its history of operation and the major and minor lines of passage -with the western end of the Snowy Mountains Highway from Tumut being the major route. Within Kosciuszko National Park, there was a complex pattern of stock movements due to the fact that herds move along the tracks which offer easiest access to their grazing blocks, and along which feed and water may be available. Pasture differences also accounted for the pattern of distribution of sheep or cattle in certain localities (King, 1959:135). Special reserves for the needs of itinerant stock, such as travelling stock, water and camping reserves, also highlight the heritage of transhumance in the region. Large mobs of sheep regularly passed through the Riverina last century in the late Spring on their way to the high country (Williams, 1962) and they had a major impact on the structure and composition of plant species on the western stock routes which can still be seen today (Dr Jim Noble, CSIRO Wildlife and Ecology, pers.comm.).

The role of fire in encouraging transhumance is a significant issue for consideration in assessing the extent and intensity of environmental change. Through paleoenvironmental research, Dodson et al (1994) have investigated 1000 years of environmental change and human impact in the alpine zone at Club Lake in Kosciuszko National Park. Fire

frequency has not significantly altered in the last 900 years, although the most intense period of fires occurred around 1870-85. Fire had an impact on erosion but not on vegetation change. The impact of land uses after European arrival initiated a change in the erosion and fire regime and brought in new grazing animals and exotic plant species. These triggered temporal changes in eutrophication and the nature of erosion, and significant vegetation changes. There was a reduction in the stability and persistence of species representation, especially in herbfield vegetation, and little recovery is evident despite the cessation of summer grazing over 30 years ago. It is apparent that the area is very sensitive to disturbance by human impact and large fires. This has implications for managing the seasonal inflow of summer visitors to the high country.

The practice of transhumance in Australia does not have the long cultural continuity as expressed in Aboriginal response seasonally to using the resources of the Australian Alps. In the past 30 years the seasonal movement of stock to the high country has been replaced by seasonal movements of recreationists.

- New sub-theme: Utilizing alpine resources- spoiling, restoring and improving

Mining, forestry, water harvesting and winter sports have all had a distinctive regional expression in the Australian alpine region from the middle of the nineteenth century. Skiing was first undertaken at Kiandra in the 1860s and what was arguably the world's first ski club was established in 1881 by Charles Kerry, an outstanding professional photographer who has recorded much alpine history (Good, 1992:151).

In Australia, the driest of all continents, rivers have the lowest annual discharge volume per unit area in the world and the low volume and high variability of runoff of Australian rivers has been a problem since European occupation of the continent and has necessitated the manipulation of water resources (Lawrence, 1992:295) The Australian Alps are of national significance in that they produce the highest rates of runoff per unit area compared to other parts of the continent and provide most of the water for agricultural purposes in south-eastern Australia. The massive water storages and hydro-electric schemes in the Snowy Mountains and the Victorian Kiewa scheme constructed after World War 2 were influenced by European and American models already in place but the scale and impact of the operations supplying regulated water half way across the continent is of universal significance. In an unprecedented industrial and technological effort on this continent, 145 kilometres of tunnels were driven, 16 dams and seven power stations were constructed, with two deep underground. The engineering achievement is of national heritage significance. But the project employed some 100,000 people between 1949 and 1974, drawn from about 70 nationalities. Mostly they were European wartime refugees (Displaced Persons), or assisted European migrants. This population inflow may well be judged as another critical benchmark in Australian history comparable with the massive influx of gold seekers in the 1850s when 500, 000 people migrated to Victoria alone in the decade between 1851 and 1861. This post war influx further developed our current multicultural society because the parents of many Australians today first experienced Australia in these mountains, and it represented a massive input of non-Anglo-Celtic peoples into the alpine area (Mulvaney, 1992:15).

Creating reservoirs caused massive impacts on the earth surfaces surrounding the reservoirs but soil conservation works on a major scale were carried out to prevent siltation and improve water flow. Although it has been stated that only two percent of the Kosciusko National Park is occupied by engineering works, this understates the real effect, especially visual impact (Gare, 1992: 211). The construction of the Snowy and Kiewa Schemes and the development of ski villages within the alpine parks have provided social, economic and recreational benefits to the community but not without major ecological impacts, although these impacts are now masked by effluent discharges from the villages and run-off from car parks and roads. Summer visitation now exceeds winter visitation and while more dispersed and passive in type, it is also making impacts on the fragile environment (Good, 1992:153).

- New sub-theme: Scientific research in alpine areas

Alpine science can be considered as cultural heritage even though the historians of Australia have frequently neglected science in their narratives. As Griffith and Robin (1994) have noted in *Science in High Places, The Cultural Significance of Scientific Sites in the Australian Alps*, their report to the Alps Liaison Committee:

*Before 1940, most science in the alps was incidental, unrepeatable and descriptive. It was the science of exploration, a traveller's and discoverer's science, done mostly by individuals. Since 1940, much science in the alps has been experimental, problem-oriented and sustained over repeated visits. It has often been institutional in derivation...*

The nineteenth century botanical investigations of Von Mueller and Maiden were of international interest as were the geological studies of Edgeworth David and the meteorological studies of Clement Wragge. This century the ecological studies of the Australian Alps are of international significance and scientific work has been driven by concerns about conservation: vegetation and soil conservation, conservation of water quality and quantity, and recently, concerns about the conservation of wilderness. Science has aided conservation to repair the damage done to fragile alpine ecosystems by cattle and sheep grazing over the last century, and to conserve the vegetation cover of the vast water catchments.

The Australian Alps are significantly different from other alpine areas throughout the world – they are ‘soil mountains’ in contrast to the rock of Switzerland and New Zealand and the peat and oceanic mountains of Europe. Unlike rocky mountains they have complex and interesting vegetation patterns. The tree lines and ecotones between different ecosystems are of particular scientific interest. Vegetation analysis studies shaped the way the soil conservation agencies of Victoria and New South Wales undertook their work. Costin’s work on the Snowy catchment and the Fawcett studies on the Hume and Kiewa catchments also became benchmarks of Australian alpine ecology (Griffiths and Robin, 1994:13). The first attempts at reclamation and revegetation were undertaken in 1959 in the Mt Carruthers to Mt Kosciusko area and have proved successful (Good, 1992:145). All geological features on the Main Range associated with

the controversial glaciation debate about the extent of glaciation have national significance along with sites associated with the dating of Australian glacial events. Monitoring sites to measure stone movement on Mt Twynam , karst processes at Cooleman Plain and Yarrangobilly Caves, and treeline dynamics in Thredbo Valley are also sites of outstanding cultural significance associated with scientific research.

Archaeological research in the Alps, notably the pioneering work of Josephine Flood, has also generated investigations into human occupation of the Alps and influenced perceptions of the past. Ecological research such as Ian Pulsford's cypress pine monitoring sites along the lower Snowy River have provided valuable information about the pre-contact vegetation structure and dynamics of this area in relation to the high country (Pulsford, 1993: 85-104). J.C. Banks has argued for more site specific studies into the fire history of the Alps and its effects (Banks, J.C.G., 1989:270-278). Sir Keith Hancock's pioneering history of the Monaro showed the interaction between man and environment and raised questions about the extent of human impact which still require detailed research.

**Step B: Identify Places in Alpine Areas Where Further Work Is Needed To Determine Whether They Are The Best Global Expressions Of The Themes Of Outstanding Universal Value**

For already recorded sites within the alpine parks and reserves, a list of exemplar places can be suggested to test the methodology. However, much more research is required into places before a definitive selection can be made to illustrate the best expressions of that global theme in the context of the Australian Alps.

**For Theme 1:** Traditional human settlement and land use, the following places within the Australian Alps National Parks and their adjacent areas are suggested:

- Birrigai rockshelter, ACT
- Cloggs Cave, Snowy River Valley
- Wollondibby Creek, Kosciuszko NP
- foot of Mt Crackenback in the Thredbo Valley, Kosciuszko NP
- foot of Mt Jagungal in Kosciuszko NP
- Nursery swamp II rock shelter
- Rings Creek, Bogong
- The Alpine Way, Kosciuszko NP
- Old Monaro Highway from Tumut
- Track from Adaminaby to Happy Jacks Plain
- Hannells Spur track from the Geehi River
- Bon Accord Spur track from Harrierville to Bogong High Plains, Vic.
- Ingeegoodbee Track, East Gippsland

However, as has been noted in the preceding section, only limited archaeological investigation has occurred and more systematic investigations of the Southern Highlands

region are required before any definitive patterns can be assured for alpine Aboriginal heritage.

In addition, as Good (1992:134) has noted:

*Ceremonial stone arrangements, ceremonial grounds, campsites, canoe trees, rock art and other examples of Aboriginal culture and history remain, together with the many places named after the moth feasts by both Aborigines and Europeans. The moths have given their names to peaks such as Dicky Cooper Bogong, Rocky Bogong, the Bogong Peaks, and Big Bogong (Mt Jagungal), while place names such as Kiandra (pronounced Gianderra by the Aborigines) meaning 'sharp stones for knives'; Jindabyne (Jindaboine) – 'a valley'; Monaro (Maneroo) – the 'plains'; Yarrangobilly – 'a flowing stream'; Cootapatamba – 'where the eagle drinks'; Wallwah (Woolway) – 'a camp'; and Jillamatong – 'a hill', remind us of the long Aboriginal presence in the region.*

**For Theme 2:** Artistic expression, the following places are suggested:

- Yankee Hat, Rendezvous Creek and Nursery Swamp rock art sites- Namadgi NP (as well as all the rock art sites described by Kelvin Officer, there is a need to describe sites in other alpine and sub- regions, such as those at Mt Pilot in North East Victoria, so as to describe patterns and select the most outstanding examples.)

**For Theme 3:** Religious expression, the following places are suggested:

Snowy River Valley and Thredbo Valley-dreaming tracks associated with the Bogong moth 'festival'. However, much more ethnohistorical and oral history research is required to adequately reveal stories, dreaming sites and their place associations.

**For Theme 4:** European expansion of the eighteenth and nineteenth centuries, the following places are suggested:

- Biggin, Nimmo, Kalkite and Woolindibby squatting runs (Hancock, 1972:47)
- Mt Kosciuszko summit –the naming process
- Geehi Gap
- Kiandra goldfield, Kosciusko NP
- Mt Wills, Glen Wills, Crooked River, Dart River-Zulu Creek goldfields, Vic
- Stockmens' huts, yards and drop log fences, the vernacular architecture of alpine pastoralism
- Coolamine and Curango homesteads, Kosciusko NP; Orroral Valley Homestead, Namadgi NP
- Mt Buffalo Chalet, Mt Franklin Chalet
- Snowy Mountains Hydro-electricity Scheme – Island Bend, Tumut Ponds, Eucumbene, Cabramurra
- Kiewa Hydro-electric Scheme – Cope aqueduct, Rocky Valley reservoir, Pretty Valley, McKay Creek Power Station
- Maisie Fawcett's soil conservation enclosure plots of the 1940s at Rocky and Pretty Valleys
- Earliest plots of the Soil Conservation Service of NSW at Long Plain, 1950s
- Soil conservation works on Mt Twynan and Mt Carruthers

- Sites associated with pioneering work of AB Costin – Dainers Gap, Hotel Kosciusko Water Catchment area, Gungarton Peak, Dicky Cooper Creek
- Kiandra plots -work of John Leigh, Dane Wimbush et al.,
- New Species Gully, Middle Creek, Bogong High Plains,
- Main Range glacial features (Guthrie Saddle, the David Moraine, Perisher Creek exposure),
- ‘Railway Embankment’ moraine,
- Costin’s Carbon 14 sites,
- Clement Wragge’s Weather Observatory, Kosciusko Summit,
- Rock movement monitoring sites on Mt Twynam
- Cooleman Plain Karst Area, Yarragobilly Caves
- Slatyer’s treeline monitoring sites in Thredbo Valley,
- Mt Hotham pigmy possum monitoring sites,
- Brindabella Range –Pryor’s arboreta, Banks’ dendochronology sites
- Lower Snowy –Pulsford’s sites
- Eden –Benambra Trail
- McMillan’s mining track, Dargo –Crooked River, Victoria

**Step C: Determine, which of those places identified in Step B have integrity and authenticity and identify existing legal protection and management mechanisms.**

All of the places suggested in Step B are located within alpine national parks or adjacent reserves as described in Section 2. They are therefore protected in a statutory sense by legislation that aims to conserve their values. In addition to State –based land management legislation, there is also State –based heritage legislation covering both indigenous and historic heritage as well as Commonwealth legislation covering the protection of places entered in the Register of the National Estate. All the parks have management plans. However, the level of effective management for heritage places varies considerably between agencies, within agencies and even within individual protected areas. The level of resources and ‘on the ground’ expertise is also patchy.

The national parks and reserves in the Australian Alps cross State and Territory borders forming a 1.6 million hectare chain of protected areas across Australia. To assist conservation agencies to manage Australia’s high country in compatible and comparable ways, the Ministers responsible for the management of alpine areas in the Australian Capital Territory, New South Wales and Victoria, in conjunction with the Commonwealth Environment Minister, signed a Memorandum of Understanding in relation to the cooperative management of the Australian Alps in 1986. The MOU was revised and re-signed in 1989 when self-government in the Act and the declaration of the Alpine National Park in Victoria led to amendments. These arrangements are very positive methods for ensuring the integrity of the areas.

However, as Kirkpatrick (1994: 40-5) has shown in relation to protection of the integrity of natural values, there are threats and these apply equally to cultural values in the alpine parks –grazing by domestic stock in Victoria, agency fire policies, tourism impacts such as more accommodation units for resort development, roads, car parks, declining water

quality, weed invasion, localized trampling from recreational over-use. In relation specifically to cultural values there are threats from the lack of identification on the ground of Aboriginal sites, such as grass covered bora grounds at Rings Creek in the Bogong Range, which could be threatened by public use (Good, 1992:135). Inappropriate restoration techniques in stabilising mountain huts could also threaten their integrity.

For specific places mentioned in Step D a more thorough examination of issues affecting integrity will be required.

**Step D: Evaluate the significant places selected in Step C by consideration of their global context, and identify those essential and/or integral to a theme of outstanding universal value.**

This step is to identify those places which are essential to the theme of outstanding universal value compared to those places which are integral or peripheral.

Traditional human settlement and land use:

Birrigai rockshelter, ACT, as the oldest occupation site currently recorded, is of outstanding universal value. In conjunction with Cloggs Cave, adjacent to Snowy River National Park, and sites along Wollondibby River, Thredbo River, at the foot of Mt Crackenback, the foot of Mt Jagungal in Kosciuszko National Park and in Namadgi National Park, these sites illustrate evidence of human occupation from 21,000 BP until now. They also show the span of human occupation during extremes of climate change from the harsh cold of the Late Pleistocene to the milder climate of the Mid Holocene (8000 – 4500 BP) and the more extensive occupation from the Late Holocene.

The archaeological record of human occupation in the Australian Alps suggests a pattern of enduring links of hunting and gathering societies to the seasonal use of the alpine areas from 21,000 years ago until the middle of the nineteenth century and definitely from 4500 years ago until the present. The seasonal migration of ‘moth hunters’ was taken over by cattlemen moving their herds up to the ‘high country’ for summer grazing, by scientists undertaking regular summer surveys of the impact of grazing and fire on the alpine environment, by motorists and bushwalkers enjoying the summer hued scenery of alpine landscapes.

This cultural continuity is also expressed in the landscape by the same features – pathways or corridors - being used by successive occupants over centuries, often undertaking quite different activities, in the pursuit of quite different ends. An example is the subsequent use of Aboriginal pathways by explorers, stockmen, scientists, skiers, motorists and bush walkers. The Alpine Way in Kosciusko and the Ingeegoodbee Track in East Gippsland are examples.

Artistic expression:

None of the rock art sites recorded in Namadgi National Park can be regarded as of outstanding universal value in their own right as part of this methodology. They are typical of rock art of the Quaternary period and there are more complex examples in

Kakadu World Heritage Area and the Laura sites in North Queensland. However, in association with occupation sites at Birrigai and nearby, they complement the cultural continuity argument. Significance in relation to Aboriginal places is determined by Aboriginal organisations today and different levels and concepts of significance will apply as can be currently seen at Jabiluka in Kakadu World Heritage area.

Religious expression:

Many Aboriginal sites of profound spiritual and religious significance do not display evidence of structural or artefactual alteration. Sites of religious expression, including dreaming sites, dreaming tracks and bora grounds, are of profound importance to Aboriginal people. These sites and tracks can be viewed from an Aboriginal perspective as well as from the viewpoint of scientific documentation. The validity and importance of Aboriginal sites of religious expression, and the way in which these embody a complex relationship between people, beliefs and landscapes has been increasingly recognised.

The enduring links provided by the annual migration to the alpine country to harvest Bogong moths might be cited as a religious expression because of its associated rituals and corroborees. However, as Flood has admitted, without the ethnohistoric accounts there would be no ‘moth hunters,’ and the crucial evidence about moth consumption is not detectable in the archaeological record (Argue, 1995a: 31). The ethnohistoric sources record two actual routes –via the Snowy River Valley and via the Thredbo Valley. Given the warmer climate during the Holocene it may be that seasonality in resource exploitation was less evident and plant and animal food more abundant. The snow gum forest would have covered a larger area and migratory moths would have had increased feeding resources. Bogong moth migration to the Australian Alps may therefore have an antiquity that spans the Holocene. This would make the summer seasonal migration of outstanding universal value.

However, Grinbergs (pers.comm.) suggests that closer critical examination of the ethnohistorical accounts is required. How much of the suite of ‘moth hunter’ information is objective observation and how much is based on nineteenth century values driven curiosity? How much oral testimony from the indigenous community is *bona fide* cultural knowledge and how much is driven by Aboriginal people absorbing ‘white science’ and converting it to support hypothesised cultural traditions? Cawthorn (pers.comm.) also raised concerns about the accuracy of “knowledge gained from existing Aboriginal descendants.” These are methodological questions which should be raised in the context of cultural connections and ceremonial traditions in the Alps.

Argue (pers.comm.) has raised the issue that religious expression as a global theme could be observed in the Alps in forms other than those associated with moth exploitation and summer harvesting gatherings. She suggests that the Mt Scabby stone arrangements could have some religious expression. Given the role of stone arrangements in ceremonial contexts elsewhere, further archaeological research may well reveal links between seasonal ritual and moth exploitation at Mt Scabby. Associative cultural landscapes, which are justified by virtue of powerful religious or cultural associations of the natural element such as through dreaming sites and tracks rather than the material cultural

evidence, have not been recorded for the Alps unlike the Anangu associations with Uluru or Maori associations with Tongariro.

The nature and types of Aboriginal religious expression, and the way in which this expression is related to places or embodied more broadly in the landscape, has been little documented, particularly from a heritage point of view and including the views of Aboriginal people. There are likely to be other sub-themes necessary to encompass the full range of religious expression. Knowledge is presently not available to enable these sub-themes to be identified.

#### European expansion of the eighteenth and nineteenth centuries:

Sub-theme: Forced migration – a major way in which the expansion took place.

Convict transportation to Australia is an outstanding example of how European powers initiated the colonisation of an entire continent. This sub-theme was expressed in the alpine area through most of the squatters in the initial pastoral expansion into the region in the 1830s having convict labour –either as assigned servants or as ticket –of –leave men. Without this almost free labour the squatters would not have been able to establish their stations. Convicts were employed as shepherds, stockmen and general labourers. Their legacy endures in the pattern of pastoral stations remaining in the alpine areas, but most of this is nowadays freehold and outside the national park reserves. Whether convict labour was employed on the original 1830s runs which preceded the later pastoral properties requires more research. Within the parks, Currango, Coolamine and Orroral Valley homesteads as successors to the initial pastoral squatting stations would be places of outstanding universal value in relation to this sub-theme.

Sub-theme: Land barriers as historical themes

That the Australian Alps were crossed seasonally by Aboriginal groups travelling to Bogong moth feasts and associated ceremonies probably negates its status as a land barrier of the type described in the Australian methodology for World Heritage themes. However, topography undoubtedly influenced the way in which people moved through and lived within the Australian Alps.

Sub-theme: Integration of a continent into global economy.

The Australian gold rushes are an outstanding example of the global migrations associated with the nineteenth century gold rushes which led to Australia being the world's largest gold producer by the end of the century. The alpine region experienced alluvial rushes followed by half a century of sustained quartz reef and hydraulic mining. This sub-theme with its regional variation is of integral value to the overall assessment of Australian gold rushes as having outstanding universal value. Kiandra and Mt Willis would be places to represent this sub-theme as having outstanding universal value as regional expressions of the value. Gold seeking is part of the global theme of movement of people.

The pastoral stations now within the parks could also illustrate this theme by their contribution to supplying raw material to the processing mills of the mother country as part of the imperial economic system.

#### New sub-theme – Transhumance

The practice of transhumance in Australia does not have the long cultural continuity as expressed in Aboriginal response seasonally to using the resources of the Australian Alps. However, the European practice of transhumance in Australia could be considered as a regional expression of this global sub-theme. In the past 30 years the seasonal movement of stock to the high country has been replaced by seasonal movements of recreationists. However, there were distinct routes associated with this activity - major and minor lines of passage - with the western end of the Snowy Mountains Highway from Tumut being the major route. Within Kosciuszko National Park, there was a complex pattern of stock movements related to ease of access to favoured grazing locations in which fire may also have played a role.

#### New sub-theme: Utilizing alpine resources- spoiling, restoring and improving

Mining, forestry, water harvesting and winter sports have all had a distinctive regional expression in the Australian alpine region from the middle of the nineteenth century. Skiing was first undertaken at Kiandra in the 1860s and what was arguably the world's first ski club was established there in 1881. This topic should be researched further for international comparisons.

The Australian Alps are of national significance in that they produce the highest rates of runoff per unit area compared to other parts of the continent and provide most of the water for agricultural purposes in south-eastern Australia. The massive water storages and hydro-electric schemes in the Snowy Mountains and the Victorian Kiewa scheme constructed after World War 2 were influenced by European and American models already in place but the scale and impact of the operations supplying regulated water half way across the continent is of universal significance. The multinational population inflow to work on these massive construction schemes is also of universal significance as an example of migration of people to seek a new life. The numbers may not be comparable say to the migration of Irish to the New World during the Irish potato famine or the migration of gold seekers to Victoria in the mid 1850s, but the impact of this postwar European migration was immediate and established a new pattern of urban and rural settlement in the South East of Australia. Whether this twentieth century postwar engineering feat and its associated immigration are of outstanding universal significance will require more detailed comparisons with similar developments on other continents and nations and analysis of events in Europe at that time.

New sub-theme: Scientific research in alpine areas

The nineteenth century botanical investigations of Von Mueller and Maiden were of international interest as were the geological studies of Edgeworth David and the meteorological studies of Clement Wragge. This century the ecological studies of the Australian Alps are of international significance and scientific work has been driven by concerns about conservation. Science has aided conservation to repair the damage done to fragile alpine ecosystems by cattle and sheep grazing over the last century, and to conserve the vegetation cover of the vast water catchments.

The Australian Alps are significantly different from other alpine areas throughout the world – they are ‘soil mountains’ in contrast to the rock of Switzerland and New Zealand and the peat and oceanic mountains of Europe. Unlike rocky mountains they have complex and interesting vegetation patterns. The tree lines and ecotones between different ecosystems are of particular scientific interest. The Australian research is of international significance and the scientific sites are of outstanding cultural significance.

Places of outstanding universal value associated with this research sub-theme would include Maisie Fawcett’s exclosure plots at Rocky and Pretty Valleys, Carruthers and Twynan ridges transects, Dainers Gap and Hotel Kosciusko sites, Main Range glacial sites (Guthrie Saddle, the David Moraine, Perisher Creek exposure), Mt Twynan transect monitored by Jennings and Costin (1963-75), Cooleman Plain Karst Area and Yarrangobilly Caves monitoring sites, Slatyer’s Thredbo Valley treeline monitoring sites, Banks’ dendochronology sites in the Brindabellas and the pigmy possum monitoring sites on Mt Hotham

**Step E: Assess the places selected in Step D against World Heritage Convention definitions and criteria.**

This step is to test whether the places listed previously as meeting themes of outstanding universal value would satisfy World Heritage criteria. It presents the case for potential World Heritage listing.

**Criterion 24(a) (iii)** - *bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared*

Seasonal movement as a cultural tradition could be of outstanding universal significance in Australia because of its possible expression over 21,000 years and more consistently over the last 4500 years. The current archaeological record of human occupation in the Australian Alps suggests a pattern of links of hunting and gathering societies to the seasonal use of the alpine areas from 21,000 years ago in the cold climate of the Late Pleistocene through the warmer period of the mid-Holocene until the middle of the nineteenth century. The archaeological record illustrates a more intensive seasonal use of the high country from c.4500 BP when summer food resources like Bogong moths were available.

Then this seasonal migration was taken over in the mid nineteenth century by cattlemen moving their herds up to the ‘high country’ for summer grazing, by scientists undertaking regular summer surveys of the impact of grazing and fire on the alpine environment, by motorists and bushwalkers enjoying the summer hued scenery of alpine landscapes. Aboriginal people who survived the European invasion of their country went to work as stockmen (Hancock:1973:71) and later, when they moved into the surrounding villages, as farm labourers and bush workers. Their practice of traditional rituals in the high country was disrupted, then discouraged by government policies aimed at social integration, but have now been rekindled by cultural revival policies and the employment of Aboriginal people in the park management services.

This cultural continuity is also expressed in the landscape by the same features – pathways or corridors - being used by successive occupants over the last century, often undertaking quite different activities, in the pursuit of quite different ends. An example is the subsequent use of Aboriginal pathways by explorers, stockmen, scientists, skiers, motorists and bush walkers. The Alpine Way in Kosciusko and the Ingeegoodbee Track in East Gippsland are examples of pathways into the high country.

Appendix 4 provides comparative information and illustrates how in the European Alps human presence accompanied the rising of the tree line to 2400m about 10,000 BC – much later than in the Australian Alps. In the South American Alps (the Andes), cave – dwelling hunter-gatherers were recorded as high as 4050m in Huanuco c. 7000 BC, again later than in Australia. Heffernan (1998) has noted the abundant evidence of the ceremonial importance of high mountains to ancient and current societies in the Andes. Whether these people engaged in seasonal migrations to higher country in search of food and associated rituals requires more investigation for comparative purposes, as does the cultural continuity of their descendants in practicing this seasonal movement. Occupation in the Himalayas and in North America was much later. The Bhutan tribespeople still practise transhumance in the Himalayas.

It is suggested therefore that in the Australian Alps, above the tree line, the continuity of human seasonal movement is possibly the longest and most ancient practised.

**Criterion 24 (a) (v)** – *be an outstanding example of a traditional human settlement or land-use which is representative of a culture (or cultures), especially when it has become vulnerable under the impact of irreversible change*

The Australian Alps offer an outstanding example of traditional hunter-gatherer use which was representative of that use over 21,000 years and which has become vulnerable under the impact of irreversible change, whereby the direct descendants of these people now live in a modern rural town society.

The outstanding universal theme of “Traditional human settlement and land use” is well illustrated. Birrigai rockshelter, ACT, as the oldest occupation site currently recorded, is of outstanding universal value. In conjunction with Cloggs Cave (17,000 BP), adjacent to Snowy River National Park, and sites dated to 4500 BP along Wollondibby River,

Thredbo River, at the foot of Mt Crackenback and the foot of Mt Jagungal in Kosciuszko NP, these sites illustrate evidence of human occupation from 21,000 BP until now. They also show the span of human occupation during extremes of climate change from the harsh cold of the Late Pleistocene to the milder climate of the Mid Holocene (8000 – 4500 BP) and the more extensive occupation from the Late Holocene.

The enduring links provided by the annual migration to the alpine country to harvest Bogong moths may be cited as a “religious expression” because of its associated rituals and corroborees. The ethnohistoric records record two actual routes to the Snowy Mountains, the historic name for the Main Range in Kosciuszko National Park which contains Australia’s highest peaks – routes via the Snowy River Valley and via the Thredbo Valley. Given the warmer climate during the Holocene it may be that seasonality in resource exploitation was less evident and plant and animal food more abundant. The snow gum forest would have covered a larger area and migratory moths would have had increased feeding resources. Bogong moth migration to the Australian Alps may therefore have an antiquity that spans the Holocene. This would make the summer seasonal migration of outstanding universal value. The cultural continuity of annual seasonal migration to the high country was disrupted by the European pastoral invasion of the lower alpine country and the dispersal of the traditional owners of this country from the mid nineteenth century.

The nature and pattern of Aboriginal archaeological sites across the alpine and sub-alpine country illustrates a continuing use of favoured environments and adaptive use of these from the mid Holocene by low level populations. Site types include rock art, ceremonial, burial, habitation, lithic scatters and Bogong moth harvesting sites.

**Criterion 39 (ii)** - *...organically evolved landscape. This results from an initial social, economic, administrative, and/or religious imperative and has developed its present form by association with and in response to its natural environment. Such landscapes reflect that process of evolution in their form and component features. They fall into two categories:*

- *a relict (or fossil) landscape is one in which an evolutionary process came to an end at some time in the past, either abruptly or over a period. Its significant distinguishing features are, however, still visible in material form.*
- *a continuing landscape is one which retains an active social role in contemporary society closely associated with the traditional way of life, and in which the evolutionary process is still in progress. At the same time it exhibits significant material evidence of its evolution over time.*

Existing work on alpine cultural landscapes by Lennon and Mathews (1996) and Taylor (1992) should be expanded to include identification and analysis of areas within the Alps which demonstrate the three main categories of cultural landscapes in terms of World Heritage criteria:

- i. designed intentionally by man;
- ii. organically evolved –including relict or fossil landscapes, and continuing landscapes;
- iii. associative cultural landscapes.

A relict or fossil landscape ?

It could be argued that the landscape associated with the Bogong moth festival, which involved a gathering of up to an estimated 1000 people belonging to at least three different language groups from the tribal areas surrounding the alpine high country, is now a relict landscape because those people no longer live in tribal areas meeting at lower levels for corroborees and associated rituals before moving to the 'tops' to harvest the moths. In 1842 local Aborigines were still living in the Wollondibby and Mowamba valleys on the northern slopes of the Snowy Mountains, but by the 1870s there were only a few remaining Ngarigo speakers in the entire southern tablelands (Kamminga, 1992:103). James McEvoy, the original selector at Wollondibby rendered first aid to Aborigines injured in inter-tribal fights during the 1860s at the ceremonial ground at the foot of Mt Crackenback, where Aborigines met before moving to the 'tops' for the annual festival of the Bogong moth (Kamminga, 1992:108). However, the natural or physical landscape remains the same geomorphologically and the Bogong moths aestivate in their trillions annually during the summer season. Reliance on current archaeological information would suggest that the Bogong moth festival has resulted in a fossil landscape.

Or a continuing landscape?

It could also be argued that the same landscape that may be categorised as a fossil landscape is also a continuing landscape. Current investigations by Mike Young of the Kosciuszko Information Project into the post-contact history of the Monaro Aboriginal people suggests that rather than disappearing, although severely decimated in numbers, they were simply ignored by the recorded history as they were now 'conquered'. In itself this is significant as an example of how colonial powers can seek to disenfranchise indigenous people by simply writing them out of history. Whether these survivors located away from traditional country were able to regularly visit their ceremonial places remains to be further investigated.

Contemporary indigenous values of the Alps require further research through consultation with appropriate communities. The latter should also have the opportunity to discuss the appropriateness of the current information regarding the cultural heritage values discussed in this report and possibly provide more or additional material.

The alpine high country is now subject to summer seasonal visitation by bush walkers and tourists seeking recreation and spiritual 'food'. There is some comparison with the seasonal movement in summer of Aborigines who visited there for 21,000 years and, for at least the last 4500 years, for their Bogong moth festivals and associated rituals. Seasonal movement to the high country is a cultural continuity.

The alpine pastoral and mining landscapes were part of the integration of the continent into the global economy which resulted from the European expansion of the eighteenth and nineteenth centuries. Within the alpine park reserves these traditional European

commercial activities are no longer permitted, but there is significant material evidence of their practice and its evolution over the last century, often as a result of technological improvements. At Orroral Valley for example, kangaroos have replaced cattle grazing on the lower montane grasslands in paddocks still defined by drop log fences, while at Glen Wills all aspects of gold mining from alluvial through sluicing to quartz reefing are evident. This evolutionary process of adaptive land use is continuing and currently, the landscape is in the process of evolving into a parkland for conserving biodiversity in all its manifestations. At the same time, public park management is recognising the need to integrate traditional owners of the land into land use management decisions and the encouragement of Aboriginal cultural activities in parks and the employment of Aboriginal staff – all part of managing a continuing landscape.

This century the ecological studies of the Australian Alps are of international significance and scientific work has been driven by concerns about conservation: vegetation and soil conservation, conservation of water quality and quantity, and recently, concerns about the conservation of wilderness. Science has aided conservation to repair the damage done to fragile alpine ecosystems by cattle and sheep grazing over the last century, and to conserve the vegetation cover of the vast water catchments.

Sullivan (1998) has shown that in the implementation of the World Heritage Convention in Australia, natural and cultural values form a conceptual continuum in which ‘cultural landscapes’ fit and I believe this concept is central to the category of ‘continuing landscapes’. This continuum also assists in testing the authenticity of a nominated landscape and its ongoing management. This is discussed further below.

**Criterion 39 (iii)** – *associative cultural landscapes. The inclusion of such landscapes on the World Heritage List is justifiable by virtue of the powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent.*

In April 1995 the Asia-Pacific Regional Workshop on Associative Cultural Values examined the definition, evaluation, management and monitoring of associated cultural landscapes with particular reference to the Asia-Pacific region, where the link between the physical and spiritual aspects of landscape is so important. This is especially the case given the essential characteristics of cultural practices of indigenous peoples and of long-standing migration patterns through Asia to Australia and across the Pacific Ocean. The Workshop celebrated the importance and recognition of associative cultural landscapes exemplified by Tongariro National Park in New Zealand and Uluru Kata-Tjuta National Park in Australia having been included on the World Heritage List for their associative cultural values, complementing their earlier World Heritage listing for their natural values (Australia ICOMOS, 1995:3-4).

In the criterion, the term “artistic” encompasses all forms of artistic expression, including literary. The term “cultural” includes associations with historic events and traditions of indigenous and non-indigenous cultures.

Associative cultural landscapes may include large or small contiguous or non-contiguous areas and itineraries, routes or other linear landscapes – these may be physical entities or mental images embedded in people’s spirituality, cultural tradition and practice. Examples important to the Asia-Pacific region include Aboriginal dreaming tracks in Australia, the spread of Polynesian culture across the Pacific Ocean and the Silk Road from China to the West.

The Workshop agreed that the attributes of associative cultural landscapes also included the intangible such as the acoustic, kinetic, and olfactory, as well as the visual such as patterns of light, colours in the landscape. In some Pacific and other cultures of this region, some landscapes have been created by women or carry “religious, artistic or cultural” traditions specific to women rather than to men. Gender should therefore be taken into account in identifying associative cultural landscapes. Such investigation of contemporary Aboriginal attachment to alpine landscapes has not been undertaken.

Many Australians identify with the landscape image of the Snowy Mountains as a place of particular pastoral history and they derive a sense of belonging and national identity with this landscape and its traditions, in comparison to the European images of the chalets and Saint Bernard dogs of the more jagged Swiss Alps.

Inspirational landscapes may become familiar to people through their depiction in paintings, poetry or song. Eugene von Guerard’s painting of Mt Kosciusko and other alpine scenes in Victoria, and the work of famous poets like David Campbell and Douglas Stewart as well as the local ‘bush poets’ have helped create a heritage of inspiration for the Australian Alps over the last century. However, the cultural landscape of the Snowy Mountains is indelibly associated with Banjo Patterson’s “The Man From Snowy River” which is recited and sung all over Australia by school children, country singers and entertainers. As Hancock (1972:137) perceptively remarked, “in Patterson’s galloping verse the Wild Colonial Boy comes of age as a self-confident Australian.” So, in part, our national identity is associated with particular places, with conquering the rugged mountains. However Mulvaney (1992: 13) pointed out that while anthropology in the form of A W. Howitt’s journeys and botany in the form of Ferdinand von Mueller’s journeys in the mountains were born in the saddle, the anti-intellectualism in the Australian psyche has failed to acknowledge adequately Howitt and von Muellers’ extraordinary feats of endurance and imagination in their scientific explorations and so the more larrikin Man From Snowy River always wins the popular acclaim for his horsemanship. There is a need for more detailed studies of both academic and popular culture to assess the depth of cultural associations with the natural features and phenomenon of the Australian Alps.

The history of alpine science (refer to Gillbank in the Jindabyne symposium; Griffiths and Robin, 1994) is ignored as even less glamorous, yet it has informed our fundamental principles of land management. This aspect needs to be further investigated as an associative cultural value in terms of World Heritage criteria.

However, the Alps obviously had and still have associated cultural value for many groups in Australia:

- for explorers, surveyors, artists; (see chapter by Lennon in Jindabyne symposium);
- for contemporary Aboriginal communities seeking to maintain their traditional links,
- for postwar European migrants who saw “home” in the alpine features; (see Mulvaney in Jindabyne symposium; McHugh, 1989.)
- for urban based conservationists who decorate their homes and work places with Wilderness Society photographs of sublime alpine scenery.

Even without documenting the Aboriginal spiritual associations with the alpine high country, there is still abundant evidence on which to further develop the case for associative cultural landscape listing based on the inspirational nature of Australian alpine landscapes. Hodges (1992) has shown how artists, photographers and writers created an alpine ‘vision’ and invented cultural traditions for the Australian Alps, whose story could be considered to be “the story of misapprehension” (Grenier, 1992: 11-15) until Australians came to regard their Alps as distinctively Australian and not like Alps in the European tradition and physiography.

The Asia-Pacific Regional Workshop recommended that, in evaluating any associative cultural landscape for World Heritage listing the criteria in Paragraphs 24 and 44 be considered comprehensively, as was the case with Tongariro and Uluru Kata-Tjuta National Parks which met both cultural and natural criteria. Cultural criteria in Paragraph 24(a) relating to “unique or exceptional testimony to a cultural tradition or to a civilisation” (cultural criterion iii) and “associated with...artistic and literary works of outstanding cultural significance” (cultural criterion vi) were clearly applicable to associative cultural landscapes. Cultural criterion (iv) dealing with “landscape which illustrates significant stages in human history” and (v) relating to “an outstanding example of a traditional land-use which is representative of a culture (or cultures), especially when it has become vulnerable under the impact of irreversible change”, may also apply to associative cultural landscapes. This is the case outlined in the preceding sections.

The Workshop recommended that in applying cultural criterion 24 (a) (vi) – “be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance...,” a broader rather than narrower interpretation be used, and that in particular, oral traditions should not be excluded.

The Workshop considered that the natural criterion defined in Paragraph 44 (a) (iii) may be relevant for an associative cultural landscape. The criterion highlights “superlative natural phenomenon”, “areas of exceptional natural beauty” and “areas of exceptional aesthetic importance. It is important that any nomination for World Heritage listing clearly specify how and why the landscape is seen as having these qualities, which may well be cultural associations such as through painting or photography as in the Tasmanian

Wilderness or Yosemite's Half Dome. Again, this aspect has been highlighted in the section on inspirational landscapes of the Australian alpine country. Kirkpatrick (1994:58-60) considered that the Australian Alps contain many superlative natural phenomena, not the least is their nature as an outstanding and unusual exemplar of intraplate mountain ranges. This has resulted in a different character –of 'soil mountains', of extensive areas of subalpine treeless vegetation or 'parks' unusual on a world scale and prolific in the Australian Alps, of diverse structural types in the alpine eucalypt forests, of international superlative summer wildflower displays. Kirkpatrick also considers the area to be of exceptional natural beauty and discusses the work of Taylor (1992) and Bonyhady (1991) in analysing the landscape aesthetics of Australian alpine scenery.

There are management implications arising from the specific criteria used to evaluate associative cultural landscapes. The criteria in Paragraph 44(a) (ii) and (iv) for evaluating natural properties for World Heritage listing may, for the purposes of integrity, require the maintenance of biological diversity. While changes to Paragraph 38 have emphasised the potential for traditional cultural practices to assist the maintenance of biological diversity, management problems may arise if traditional land-use practices are seen to conflict with other nature conservation strategies. This has been the cause of debate about continuing cattle grazing in pastoral landscape units. However, because the likely nominated area would be within the boundaries of the alpine reserves covered by the MOU, this is not seen as an irresolvable problem. The MOU is invaluable for maintaining integrity in terms of management.

Authenticity in relation to the values for which a place was nominated should encompass the continuation of cultural practices which maintain the place. This has been clearly accepted as part of the long term maintenance of Uluru by the Anangu fire management in caring for the country. Authenticity has been discussed in relation to the concept of "transhumance" where the characteristics of the cultural continuity change. Authenticity should still allow the introduction of new ways of caring for the place. It may mean the maintenance of a continuing association between the people and a place, irrespective of how it is expressed through time. This may entail acceptance of change to the landscape as well as a change in attitude to it.

Communities which are stakeholders in properties of World Heritage significance may not always be aware of the criteria and the listing process. Therefore educational programs and full consultation with all communities culturally associated with the properties is required. It is recognised that cross cultural differences may lead to conflicts concerning evaluation, listing and management of properties. This is potentially the case in the Australian Alps where postwar European migrant views on ski fields may not accord with nature conservationists, or the latter with pastoralists, or park managers with Aboriginal traditional hunters.

## **Summary:**

There is a case for considering nomination of the Australian alpine park reserves for World Heritage listing on the following criteria:

**Criterion 24(a) (iii)** - *bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared*

The current archaeological record of human occupation in the Australian Alps suggests a pattern of links of hunting and gathering societies to the seasonal use of the alpine areas from 21,000 years ago in the cold climate of the Late Pleistocene through the warmer period of the mid-Holocene until the middle of the nineteenth century. The archaeological record illustrates a more intensive seasonal use of the high country from c.4500 BP when summer food resources like Bogong moths were available. Therefore it is suggested that in the Australian Alps, above the tree line, the continuity of human seasonal movement is possibly the longest and most ancient practised.

**Criterion 24 (a) (v)** – *be an outstanding example of a traditional human settlement or land-use which is representative of a culture (or cultures), especially when it has become vulnerable under the impact of irreversible change*

The Australian Alps offer an outstanding example of traditional hunter-gatherer use which was representative of that use over 21,000 years and which has become vulnerable under the impact of irreversible change, whereby the direct descendants of these people now live in a modern rural town society. It is most likely the oldest highland occupation of any extreme climate mountain lands in the world by any Aboriginal peoples and this would confirm its significance as having outstanding universal value as a continuous human pattern of seasonal use.

**Criterion 39 (ii)** - *...organically evolved landscape. This results from an initial social, economic, administrative, and/or religious imperative and has developed its present form by association with and in response to its natural environment. Such landscapes reflect that process of evolution in their form and component features. They fall into two categories:*

- *a relict (or fossil) landscape is one in which an evolutionary process came to an end at some time in the past, either abruptly or over a period. Its significant distinguishing features are, however, still visible in material form.*
- *a continuing landscape is one which retains an active social role in contemporary society closely associated with the traditional way of life, and in which the evolutionary process is still in progress. At the same time it exhibits significant material evidence of its evolution over time.*

As a continuing landscape, the alpine high country is subject to summer seasonal visitation by bush walkers and tourists seeking recreation and spiritual ‘food.’ There is some comparison with the seasonal movement in summer of Aborigines who visited

there possibly for 21,000 years and, for at least the last 4500 years, for their Bogong moth festivals and associated rituals. This seasonal movement to the high country is a cultural continuity.

**Criterion 39 (iii)** – *associative cultural landscapes. The inclusion of such landscapes on the World Heritage List is justifiable by virtue of the powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent.*

Associative cultural landscapes may include large or small contiguous or non-contiguous areas and itineraries, routes or other linear landscapes – these may be physical entities or mental images embedded in people’s spirituality, cultural tradition and practice. Even without documenting the Aboriginal spiritual associations with the alpine high country, there is still abundant evidence on which to further develop the case for associative cultural landscape listing based on the inspirational nature of Australian alpine landscapes due to its superlative natural phenomena and exceptional natural beauty both of which are realized in cultural values.

### **Conclusion:**

It seems that a strong case could be made on the four cultural criteria summarised above for the listing of most of the MOU area under the World Heritage Convention.

In 1994 Kirkpatrick argued that there was a strong case for the same area on the grounds of all four natural criteria. With the current merger of criteria for cultural and natural properties and that the conditions of integrity including appropriate notions of authenticity be related directly to each of the criteria, it seems more likely that a nomination for listing of the Australian Alps as a place of outstanding universal value would succeed. The former natural criterion (ii) is to include human interaction with the environment, while criterion (iii) allows for spiritual as well as aesthetic.

“Outstanding universal value” can only be identified by systematic thematic studies and the themes should be formulated in a manner which allows responses to be identified in the different cultures and regions. All values are cultural and therefore all landscapes are cultural –either as a cognitive or physical landscape. A more detailed examination of the antiquity and characteristics of seasonal migration of hunter –gatherer societies in alpine regions throughout the world as detailed in Appendix 4 is required before the case for the Australian Alps is absolutely confirmed. In comparative studies, like should be compared with like. However, further research is required into some aspects to allow a comprehensive construction of the case.

## 6. FURTHER RESEARCH

### a. Aboriginal archaeology:

There is a demonstrated need for systematic archaeological research targeted at investigating specific questions rather than the current ad hoc findings and hypotheses arising from EIS studies as a requirement of development applications. Questions include: What was the nature of Aboriginal occupation across the Alps? During what time span were the Alps occupied? What happened to Aboriginal survivors of the European invasion? To answer these questions requires specific field work, library and archival research, ecological research, construction of databases –targeted studies.

Priority studies suggested include:

- archaeological testing in the upper Wollondibby Valley to reveal traces of prehistoric summer settlements containing a small number of tools of exotic stone brought in by visitors;
- investigation of the precise locations of recent prehistoric ceremonial grounds;
- research into the early Holocene fauna as a basis for understanding seasonal resource exploitation for Aboriginal subsistence in the mountains during the Early Holocene and the possibility of exploitation during the Late Pleistocene.

Indigenous people should be involved in the research, study and investigation of their heritage.

### b. Aboriginal anthropology and oral tradition

- Research is required into dreaming stories, rituals and beliefs associated with the annual Bogong moth festival.
- Oral histories of family connections with specific places in the Australian Alps should be conducted in communities with descendants of the Ngarigo, for example, at Tumut.

### c. European expansion –forced migration

- Detailed research into the number of and length of employment of assigned convicts to pastoral stations in the alpine valleys is required to fill out Hancock's research.

### d. Utilizing alpine resources- spoiling, restoring and improving

- Detailed comparisons with other continents and nations are required to evaluate whether the twentieth century postwar engineering feat of the Snowy Mountains Hydro-electricity Scheme and its associated immigration are of outstanding universal significance .

e. Scientific research in alpine areas

- Australian alpine research is recognised as being of international significance and the scientific sites are of outstanding cultural significance. There needs to be a short comparative study quantifying the types and extent of work undertaken.
- The recommendations of Griffiths and Robin (1994) regarding recording, monitoring, establishing a database of known sites, further research into the careers of the scientists and publication of existing alpine science history should be implemented.

f. Continuing cultural landscapes

Work is required to delineate areas within the MOU area which can be categorised in terms of World Heritage criteria:

- i. designed intentionally by man, e.g. Currango, Kiandra;
- ii. organically evolved –including relict or fossil landscapes, and continuing landscapes, e.g. Birrigai, Thredbo Valley camp sites;
- iii. associative cultural landscapes, e.g. Snowy Mountains, Snowy River.

g. Associative cultural landscapes

- Need for more detailed studies of both academic and popular culture to assess the depth of cultural associations with the natural features and phenomenon of the Australian Alps.
- Aboriginal associations as mentioned previously need also to be documented.

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## **8. TABLES**

Table 1 – Victorian Historic Places Section Database for Alpine Parks

Table 2 – Register of The National Estate –listings for Alpine Areas

Table 3 - Thematic classification suggested for cultural landscape types in the Australian Alps National Parks, in Section 3.2

Table 4 - Criteria for Listing of Places on the Register of the National Estate, in Section 3.3

Table 5 - World Heritage List Criteria for cultural properties, in Section 3.4

Table 1 – Victorian Historic Places Section Database for Alpine Parks

Table 2 – Register of the National Estate –listings for Alpine Areas

## 9. APPENDICES

## **Appendix 1: Australian Heritage Places Principles**

(Australian Heritage Commission (1998)a, *National Heritage Convention Key Outcomes*, Canberra, pp. 14-19.)

### Preamble

Australia's heritage, shaped by nature and history, is an inheritance passed from one generation to the next. It encompasses many things, the way we live, the traditions we hold dear, our histories, stories, myths, values and places. The diversity of our natural and cultural places helps us to understand our past and our relationship with the Australian landscape. Heritage recognises the indivisible association of culture, nature, country, place, religion for Aboriginal and Torres Strait Islander peoples.

### Vision

Recognising the diversity of country and cultures in Australia and the unique relationship of Aboriginal and Torres Strait Islander peoples with country, Australia should act as a community that respects, sustains and celebrates its diverse heritage, which connects us to the past, present and country for all generations.

### Principles

#### *Principle 1*

Recognising our responsibilities to past and future generations, the Australian community will conserve its heritage through cooperation and respect between all communities and governments.

#### *Principle 2*

All levels of government and government agencies must demonstrate leadership in protecting, conserving, promoting and managing heritage values.

#### *Principle 3*

Recognising that Indigenous peoples are owners and custodians of their heritage and have consequent obligations, the heritage of all Australians should be managed in accordance with evolving traditions, customs and laws.

#### *Principle 4*

Communities should be actively involved in all processes of identification, protection and use of heritage places, other than where this would be inconsistent with the conservation of heritage values.

*Principle 5*

There should be a comprehensive inventory of heritage places accessible to the general public, subject to confidentiality to protect heritage values or customary rights.

*Principle 6*

Identification and assessment should be based on the full range and diversity of heritage values.

*Principle 7*

Determination of significance should be based solely on heritage values and be separate from management decisions.

*Principle 8*

The fundamental aim of conservation is to sustain heritage value with the least possible intervention. Where the use of a place involves a risk of significant irreversible damage to heritage values, lack of scientific certainty should not be used as a reason for allowing that use.

*Principle 9*

The uses of heritage places should, as far as practicable, be limited to those which are compatible with the heritage values of the place. Where there is a conflict between heritage and other values, prudent and feasible management options must be sought and considered.

*Principle 10*

The effective identification and conservation of heritage places is dependent upon relevant research, education and presentation which respects the heritage values of the place and the sensitivities of communities.

*Principle 11*

Conservation of heritage should be adequately resourced, recognising the rights, responsibilities and capabilities of governments, owners, custodians, communities and interested parties, and respecting cultural and gender requirements.

*Principle 12*

Planning processes and decisions must include conservation management planning for heritage.

## **Appendix 2: Criteria for the inclusion of cultural properties in the World Heritage List (UNESCO 1999: Part C, paragraphs 23-42)**

“23. The criteria for the inclusion of cultural properties in the World Heritage List should always be seen in relation to one another and should be considered in the context of the definition set out in Article 1 of the Convention which is reproduced below:

"monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;

groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science;

sites: works of man or the combined works of nature and of man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological points of view."

24. A monument, group of buildings or site - as defined above - which is nominated for inclusion in the World Heritage List will be considered to be of outstanding universal value for the purposes of the Convention when the Committee finds that it meets one or more of the following criteria and the test of authenticity. Each property nominated should therefore:

(a)

(i) represent a masterpiece of human creative genius; or

(ii) exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design; or

(iii) bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared; or

(iv) be an outstanding example of a type of building or architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history; or

(v) be an outstanding example of a traditional human settlement or land-use which is representative of a culture (or cultures), especially when it has become vulnerable under the impact of irreversible change; or

(vi) be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance (the

Committee considers that this criterion should justify inclusion in the List only in exceptional circumstances and in conjunction with other criteria cultural or natural);

and

(b)

(i) meet the test of authenticity in design, material, workmanship or setting and in the case of cultural landscapes their distinctive character and components (the Committee stressed that reconstruction is only acceptable if it is carried out on the basis of complete and detailed documentation on the original and to no extent on conjecture).

(ii) have adequate legal and/or traditional protection and management mechanisms to ensure the conservation of the nominated cultural properties or cultural landscapes. The existence of protective legislation at the national, provincial or municipal level and/or a well-established contractual or traditional protection as well as of adequate management and/or planning control mechanisms is therefore essential and, as is clearly indicated in the following paragraph, must be stated clearly on the nomination form. Assurances of the effective implementation of these laws and/or contractual and/or traditional protection as well as of these management mechanisms are also expected. Furthermore, in order to preserve the integrity of cultural sites, particularly those open to large numbers of visitors, the State Party concerned should be able to provide evidence of suitable administrative arrangements to cover the management of the property, its conservation and its accessibility to the public.

25. Nominations of immovable property which are likely to become movable will not be considered.

26. With respect to groups of urban buildings, the Committee has furthermore adopted the following Guidelines concerning their inclusion in the World Heritage List.

27. Groups of urban buildings eligible for inclusion in the World Heritage List fall into three main categories, namely:

(i) towns which are no longer inhabited but which provide unchanged archaeological evidence of the past; these generally satisfy the criterion of authenticity and their state of conservation can be relatively easily controlled;

(ii) historic towns which are still inhabited and which, by their very nature, have developed and will continue to develop under the influence of socio-economic and cultural change, a situation that renders the assessment of their authenticity more difficult and any conservation policy more problematical;

(iii) new towns of the twentieth century which paradoxically have something in common with both the aforementioned categories: while their original urban organization is clearly

recognizable and their authenticity is undeniable, their future is unclear because their development is largely uncontrollable.

28. The evaluation of towns that are no longer inhabited does not raise any special difficulties other than those related to archaeological sites in general: the criteria which call for uniqueness or exemplary character have led to the choice of groups of buildings noteworthy for their purity of style, for the concentrations of monuments they contain and sometimes for their important historical associations. It is important for urban archaeological sites to be listed as integral units. A cluster of monuments or a small group of buildings is not adequate to suggest the multiple and complex functions of a city which has disappeared; remains of such a city should be preserved in their entirety together with their natural surroundings whenever possible.

29. In the case of inhabited historic towns the difficulties are numerous, largely owing to the fragility of their urban fabric (which has in many cases been seriously disrupted since the advent of the industrial era) and the runaway speed with which their surroundings have been urbanized. To qualify for inclusion, towns should compel recognition because of their architectural interest and should not be considered only on the intellectual grounds of the role they may have played in the past or their value as historical symbols under criterion (vi) for the inclusion of cultural properties in the World Heritage List (see paragraph 24 above). To be eligible for inclusion in the List, the spatial organization, structure, materials, forms and, where possible, functions of a group of buildings should essentially reflect the civilization or succession of civilizations which have prompted the nomination of the property. Four categories can be distinguished:

(i) Towns which are typical of a specific period or culture, which have been almost wholly preserved and which have remained largely unaffected by subsequent developments. Here the property to be listed is the entire town together with its surroundings, which must also be protected;

(ii) Towns that have evolved along characteristic lines and have preserved, sometimes in the midst of exceptional natural surroundings, spatial arrangements and structures that are typical of the successive stages in their history. Here the clearly defined historic part takes precedence over the contemporary environment;

(iii) "Historic centres" that cover exactly the same area as ancient towns and are now enclosed within modern cities. Here it is necessary to determine the precise limits of the property in its widest historical dimensions and to make appropriate provision for its immediate surroundings;

(iv) Sectors, areas or isolated units which, even in the residual state in which they have survived, provide coherent evidence of the character of a historic town which has disappeared. In such cases surviving areas and buildings should bear sufficient testimony to the former whole.

30. Historic centres and historic areas should be listed only where they contain a large number of ancient buildings of monumental importance which provide a direct indication of the characteristic features of a town of exceptional interest. Nominations of several isolated and unrelated buildings which allegedly represent, in themselves, a town whose urban fabric has ceased to be discernible, should not be encouraged.

31. However, nominations could be made regarding properties that occupy a limited space but have had a major influence on the history of town planning. In such cases, the nomination should make it clear that it is the monumental group that is to be listed and that the town is mentioned only incidentally as the place where the property is located. Similarly, if a building of clearly universal significance is located in severely degraded or insufficiently representative urban surroundings, it should, of course, be listed without any special reference to the town.

32. It is difficult to assess the quality of new towns of the twentieth century. History alone will tell which of them will best serve as examples of contemporary town planning. The examination of the files on these towns should be deferred, save under exceptional circumstances.

33. Under present conditions, preference should be given to the inclusion in the World Heritage List of small or medium-sized urban areas which are in a position to manage any potential growth, rather than the great metropolises, on which sufficiently complete information and documentation cannot readily be provided that would serve as a satisfactory basis for their inclusion in their entirety.

34. In view of the effects which the entry of a town in the World Heritage List could have on its future, such entries should be exceptional. Inclusion in the List implies that legislative and administrative measures have already been taken to ensure the protection of the group of buildings and its environment. Informed awareness on the part of the population concerned, without whose active participation any conservation scheme would be impractical, is also essential.

35. With respect to cultural landscapes, the Committee has furthermore adopted the following guidelines concerning their inclusion in the World Heritage List.

36. Cultural landscapes represent the "combined works of nature and of man" designated in Article 1 of the Convention. They are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal. They should be selected on the basis both of their outstanding universal value and of their representativity in terms of a clearly defined geo-cultural region and also for their capacity to illustrate the essential and distinct cultural elements of such regions.

37. The term "cultural landscape" embraces a diversity of manifestations of the interaction between humankind and its natural environment.

38. Cultural landscapes often reflect specific techniques of sustainable land-use, considering the characteristics and limits of the natural environment they are established in, and a specific spiritual relation to nature. Protection of cultural landscapes can contribute to modern techniques of sustainable land-use and can maintain or enhance natural values in the landscape. The continued existence of traditional forms of land-use supports biological diversity in many regions of the world. The protection of traditional cultural landscapes is therefore helpful in maintaining biological diversity.

39. Cultural landscapes fall into three main categories, namely:

(i) The most easily identifiable is the clearly defined landscape designed and created intentionally by man. This embraces garden and parkland landscapes constructed for aesthetic reasons which are often (but not always) associated with religious or other monumental buildings and ensembles.

(ii) The second category is the organically evolved landscape. This results from an initial social, economic, administrative, and/or religious imperative and has developed its present form by association with and in response to its natural environment. Such landscapes reflect that process of evolution in their form and component features. They fall into two sub-categories:

- a relict (or fossil) landscape is one in which an evolutionary process came to an end at some time in the past, either abruptly or over a period. Its significant distinguishing features are, however, still visible in material form.
- a continuing landscape is one which retains an active social role in contemporary society closely associated with the traditional way of life, and in which the evolutionary process is still in progress. At the same time it exhibits significant material evidence of its evolution over time.

(iii) The final category is the associative cultural landscape. The inclusion of such landscapes on the World Heritage List is justifiable by virtue of the powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent.

40. The extent of a cultural landscape for inclusion on the World Heritage List is relative to its functionality and intelligibility. In any case, the sample selected must be substantial enough to adequately represent the totality of the cultural landscape that it illustrates. The possibility of designating long linear areas which represent culturally significant transport and communication networks should not be excluded.

41. The general criteria for conservation and management laid down in paragraph 24.(b).(ii) above are equally applicable to cultural landscapes. It is important that due attention be paid to the full range of values represented in the landscape, both cultural and natural. The nominations should be prepared in collaboration with and the full approval of local communities.

42. The existence of a category of "cultural landscape", included on the World Heritage List on the basis of the criteria set out in paragraph 24 above, does not exclude the possibility of sites of exceptional importance in relation to both cultural and natural criteria continuing to be included. In such cases, their outstanding universal significance must be justified under both sets of criteria." (They are referred to administratively as "mixed sites".)

## **Appendix 3 – Global Themes and Sub-themes relevant to forested areas of Australia**

The themes and sub-themes relevant to forested areas of Australia are:

### **Theme: Origin and development of biota and landforms as a result of Gondwanan plate tectonics and more recent stability and long isolation**

- Sub-theme: Passive continental margins
- Sub-theme: Palaeoplains
- Sub-theme: Palaeo-drainage systems
- Sub-theme: Fossils
- Sub-theme: Refugia, relicts
- Sub-theme: Rainforest

### **Theme: Evolution of landforms, species and ecosystems under conditions of stress**

- Sub-theme: Scleromorphy
- Sub-theme: *Eucalyptus* –dominated vegetation

### **Theme: Climate Change and its impacts**

- Sub-theme: Records of ancient climates

### **Theme: Traditional human settlement and land use**

- Sub-theme: Complex persistence of hunting-and-gathering society on a single continent

### **Theme: Artistic expression**

- Sub-theme Rock art

### **Theme: Religious expression**

- Sub-theme: Dreaming sites

### **Theme: European expansion of the eighteenth and nineteenth centuries**

- Sub-theme: Forced migration – a major way in which the expansion took place
- Sub-theme: Land barriers as historical themes
- Sub-theme: Integration of a continent into global economy

## **A. Aboriginal Cultural Heritage Themes, Sub-themes and Potential Forested Places**

**Theme: Traditional Human settlement and land use**

**Sub-theme: Complex persistence of hunting-and-gathering society on a single continent**

*Australia provides the only example of where hunting-and-gathering way of life has dominated an entire continent up to modern times. This way of life continues to play a significant role in the occupation of the continent, particularly in its northern and central sections.*

Australian archaeological sites provide a unique and important record of human occupation over a range of environments spanning at least 40,000 years. Such sites are particularly significant in documenting the special ways in which Aboriginal people adapted to changing climates, as well as to the wide range of environmental situations in different parts of the continent. This adaptational history is best expressed in sites with long archaeological sequences containing evidence of a full range of material expressions linked to environmental indicators

The Panel noted outstanding global significance of Australian expressions of the sub-theme of complex persistence of hunting-and-gathering society on a single continent, and that these have been recognised internationally by the inclusion of important Aboriginal archaeological sites within the Tasmanian Wilderness World Heritage area, the Kakadu National Park World Heritage Area and the Willandra Lakes World Heritage Area.

The Panel also commented that archaeological sites may be significant in their own right and on their own, but more often they need to be considered as grouped entities; for example, as a series of sites. Such site complexes vary in their level of documentation, and these factors, together with the widespread nature of their occurrence, including many outside areas that are currently forested, needs to be considered when selecting a site or series of sites which might represent the sub-theme.

The existence of many other archaeological sites on Crown Land used for timber harvesting and within remnant patches of rainforest areas, many of which have been documented, was noted by the Panel. It concluded that these sites were not likely to be of outstanding universal value as expressions of the sub-theme and therefore they were not considered further in relation to the sub-theme.

In concluding its discussion on the sub-theme, the Panel drew attention to the fact that scientific knowledge of the archaeological heritage of Australia is expanding each year with new and significant finds. It emphasised that the assessment of Aboriginal heritage themes in forested areas is the best that can be done at this time. This assessment must be viewed as provisional and necessarily subject to revision given the strong likelihood of significant future discoveries.

The Panel also emphasised that before any further work is undertaken in relation to the sub-theme of “Complex persistence of hunting-and-gathering society of a single continent”, it is imperative that the Aboriginal communities in all relevant States be consulted both with regard to their views on the sub-theme and its representation in areas that concern them, and with regard to the work undertaken by the Panel concerning the sub-theme (pp.54-6).

### **Theme: Artistic Expression**

#### **Sub-Theme: Rock art**

*Australia has Aboriginal art sites that represent a unique artistic achievement, as well as providing an outstanding record of human interaction with the environment over tens of thousands of years.*

Several major concentrations of large, naturalistic rock paintings occur in Australia, including the Kimberley region in Western Australia, in Arnhem Land and the Victoria River District in the Northern Territory, and near Laura in the south-east region of Cape York in Queensland. Rock paintings in Kakadu National Park World Heritage Area are said to show a clear progression of motifs through time; these paintings are in an area that is inscribed on the World Heritage List. Extensive painting complexes are also known in the Carnarvon region of south-central Queensland, and on the Cobar pediplain and central-south coast regions of New South Wales. In addition, there are spectacular galleries of rock engravings in the Pilbara region in Western Australia, and in the Mootwingee region of New South Wales.

### **Theme: Religious Expression**

The Panel noted that there are many Aboriginal sites of profound spiritual and religious significance that do not display evidence of structural or artefactual alteration. Recent changes to the *Operational Guidelines for the Implementation of the World Heritage Convention* (February 1997) have made special provision for three categories of cultural landscapes. These are designed, evolved and associative cultural landscapes. It is the third category, associative cultural landscapes, which is relevant to the assessment of sites of religious expression.

Associative cultural landscapes are defined under the World Heritage Criteria as: “justifiable by virtue of the powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence which may be insignificant or even absent.” (Criteria for the inclusion of cultural properties on the World Heritage List, *Operational Guidelines for the Implementation of the World Heritage Convention, op.cit.*, paragraph 39 (iii), p.10).

The Panel recognised the profound importance to Aboriginal people of sites of religious expression, including dreaming sites, dreaming tracks and bora grounds. It is noted the different ways that these sites and tracks can be viewed from an Aboriginal perspective as well as from the viewpoint of scientific documentation. The validity and importance of Aboriginal sites of religious expression, and the way in which these embody a complex relationship between people, beliefs and landscapes was also recognised.

In discussing the theme of religious expression, the Panel noted the general lack of understanding and knowledge that exists in relation to this theme outside the Aboriginal communities to which it is relevant. The nature and types of Aboriginal religious expression, and the way in which this expression is related to places or embodied more broadly in the landscape, has been little documented, particularly from a heritage point of view and including the views of Aboriginal people. While the Panel worked with the sub-theme of dreaming sites, it also recognised that there are likely to be other sub-themes necessary to encompass the full range of religious expression. Knowledge is presently not available to enable these sub-themes to be identified. In this regard, the Panel emphasised that the theme and sub-theme discussed to date should not be regarded as definitive.

#### **Sub-theme: Dreaming sites**

*Australia provides an outstanding example of where the religious system of hunting-and-gathering societies is embodied in the landscape.*

Aboriginal knowledge of dreaming tracks is extensive and detailed, persisting in areas which have been heavily impacted by European colonisation, as well as continuing as an essential component of ongoing religious practices in those regions experiencing more recent and less severe impacts. The Panel noted that there is no comprehensive continent-wide overview of dreaming sites similar to those which are available for prehistoric sites and rock art. Some of the knowledge of dreaming tracks available to the Panel has been derived from detailed ethnographic studies, while the wider extent of understanding comes from popular accounts of Aboriginal “dreaming” narratives. The Panel emphasised that it regarded its discussion and consideration of the sub-theme of dreaming sites to be tentative. A final view would require a comparative, continent-wide study of sites of possible religious significance, including dreaming tracks.

There are also some Australian sites of religious significance to Aboriginal people which are structural in nature; for example, the ceremonial sites referred to as “bora” grounds. These may be unique as a global expression of hunting-and-gathering religious practices, but have so far not been evaluated in this way.

Amongst the best-known and documented examples of dreaming sites in New South Wales are Bimanga (Mumbulla) and Gulluga-Nadjanuga (Mt Dromedary-Little Dromedary) mountains, in the south coast region. These sites manifest little or no evidence of physical structures or modification. They are well documented as dreaming sites of profound significance to Aboriginal people. Their sacred traditional associations derive from the mythological significance of sites, and because ceremonies were held at

the sites until relatively recent times. The dreaming track of Gullaga[sic], via Nadjanuga, extends offshore to Montague Island.

## **B. European Cultural Heritage Themes, Sub-themes and Potential Forested Places**

In relation to identifying Australian thematic contexts and themes of outstanding universal value for the historic environment, there has been far less consideration given to the overall pattern of Australian history since 1788, in the World Heritage context, relative to the natural environment. Although it has been able to make some suggestions about thematic contexts and themes in relation to its terms of reference, the Panel emphasised that these should not be regarded as definitive, and further work in a broader context may suggest other themes, or additional sub-themes, related to those already identified.

The Panel also noted that future work will be required to clarify and expand on the sub-theme of “Integration of an economic system and the resources of a continent into the global economy”, including a consideration of types of places, or other sub-themes, that might be relevant in addition to those identified. Gold mining is one of the most obvious areas representing this sub-theme. Others may be significant in the World Heritage context, but for different reasons. Examples might include pastoralism and base metal mining. Further research would need to be undertaken before other places or sub-themes could be given further consideration in a forest context.

### **Theme: European expansion of the eighteenth and nineteenth century**

#### **Sub-theme: Forced migration – a major way in which the expansion took place**

Convict transportation to Australia is an outstanding example of how European powers initiated the colonisation of an entire continent.

Forced migration has been a major factor in the global movement of people from their home countries to newly settled areas since ancient times. Convictism is one aspect of forced migration; other aspects include slavery, exile and in some cases, indentured labour. Slavery, which involved the movement of more than ten million people from Africa to the Americas between 1492 and 1888 is regarded as the most devastating of all forced movements of humans. The theme of slavery is represented by a number of places inscribed in the World Heritage List.

Transportation of convicts has also been a major aspect of the labour force and colonisation processes associated with European expansion. During the sixteenth century, Spain commenced use of convicts as labour in its galleys in the Mediterranean region and in outposts and colonies in North Africa and America. In the eighteenth century, Russia, France and Britain began to employ convict labour for overseas work and colonial

development. Convict transportation has resulted in the enforced migration of large numbers of people. For example, an estimated two million people were transported to Siberia, up to one hundred and fifty thousand people to the Americas and the Atlantic colonies, seventy-five thousand to southern Asia and the Pacific region, six thousand to Africa and an estimated one hundred and sixty-two thousand were transported to Australia.

A report to the World Heritage Unit of the Commonwealth Department of Environment, Sport and Territories by Pearson and Marshall, entitled *Study of World Heritage Values: Convict Places*, May 1996, identified a number of common themes associated with forced migration. The themes most relevant to Australia included the following uses of convictism: as a mechanism of control of law and order in the home countries and the colonies, as a strategic tool in the extension of colonialism, and in the building and maintenance of spheres of political influence.

The Australian experience of convictism associated with forced migration has been identified as a theme of outstanding universal value in other contexts, including in the work undertaken by the Panel. As a result, by mid-1998 a serial nomination was developed which recommended seven convict places for consideration by the Commonwealth and States as collectively meeting the criteria for inclusion on the World Heritage List. However, following failure to secure agreement with the States over the level of likely funding for these sites, the Commonwealth Minister responsible for World Heritage matters did not progress the nomination to Paris for the consideration of the World Heritage Committee.

The Panel noted the work undertaken in relation to the sub-theme of forced migration. It considered that some convict places warrant consideration in the context of forest related work (p.65).

**Sub-theme: Integration of an economic system and the resources of a continent into the global economy**

*The Australian gold rushes are an outstanding example of the global migrations associated with the nineteenth century gold rushes.*

The Australian gold rushes were amongst the most significant of the series of rushes which occurred around the periphery of the Pacific from the mid-nineteenth century. Beginning in California in the late 1840s, the rushes swept through eastern Australia in the 1850s, New Zealand in the 1860s, the Klondike in the 1880s and Alaska in the 1890s. The Indian Ocean periphery was also impacted by the gold rushes, with the South African finds in 1885, and the Western Australian rushes commencing in 1892. In 1903, Australia was the largest single producer of gold in the world.

The population in Australia underwent a dramatic increase following the first gold rush in 1851. For example, the overall non-Aboriginal population of all Australian colonies

increased from 438,000 at the time of the first gold rush to 3,774,000 at the time of Federation in 1901. The gold rushes were an important stimulus for growth, with immigration accounting for a major proportion of the population increase. During the peak years of discovery in the early 1850s, the Australian gold fields became the single most important destination of emigrants from Britain. By 1861, after the first decade of the gold rush only 37% of the population was Australian born.

Although the 1850s included the peak of the gold rush, the process of discovery and exploitation of gold continued to influence the character of Australian society and settlement throughout the century. The first discoveries, near Ophir and Turon in New South Wales, were quickly overtaken by rich finds in central Victoria. The sequence of subsequent discoveries followed a general anti-clockwise pattern, continuing through Queensland in the 1860s, the Northern Territory in the 1880s and Western Australia in the 1890s. The dramatic population movements generated by these rushes has a lasting influence, with the creation of “instant” cities and towns and the formation of a distinctive democratic culture.

The Panel noted that a comprehensive assessment of the expression of the sub-theme of gold rushes in Australia has yet to be undertaken. It expressed the view that, in all probability, a series of places would be required to provide an adequate and representative expression of the gold rush sub-theme. It also noted that there are some places; for example, the central goldfields in Victoria, that are outstanding in their contribution to the sub-theme.

The Panel considered that it would be necessary for the following aspects of the gold rushes in Australia to be included in any best global expression of the sub-theme: the first, major gold rushes, the distinctive rushes associated with each colony, subsequent rushes that contributed in a major way to the patterns of settlement of the continent and rushes that played a major role in establishing Australia’s place in the world economy. The Panel noted that some gold rush sites might represent several of these different aspects.

The Panel also commented on particular physical features and remains that, in its view, would be important in contributing to the heritage values of gold rush sites. These included: standing buildings and settlements, such as miner’s huts and villages; mine workings, such as alluvial fields, open cuts, batteries; and infrastructure, such as dams, races, pipelines. Places discussed by the Panel in relation to this theme included those with substantial known physical remains. The Panel also commented that a number of other sites exist which are less well documented in terms of their extent, or extant features (pp.67-8).

(Alpine gold mining would be considered as part of this assessment, but internationally it would be compared with the Yukon and Siberia.)

**Sub-theme: Land barriers as historical frontiers**

















American trappers settle and roam the mountains with familiarity. The trade diminishes in the late 1830s and by the 1840s few trappers remain. (Ward: 56-62)

1842-44 -John Fremont leads survey expeditions into the Rockies, further supporting Lewis and Clark's ebullient claim to have defeated the Rocky Mountains as a barrier between the Plains and the Pacific. (Ward: 97-101)

1850s -Gold strikes in the Colorado Rockies bring almost 100 000 prospectors and leads to the establishment of Denver. (Ward: 164)

## TIMELINE OF HUMAN OCCUPATION: SOUTH AMERICAN ALPS (ANDES)

- 10 500BC - Evidence of humans in the highlands with a possible earlier presence between 12,000 and 11,000BP. If the older levels of Pikimachay and Pachamachay turn out to be valid, the pattern of few older remains may simply show a light human presence characterised by occasional treks by lower altitude groups into higher lands, possibly during summer or periods of localized retreats of ice sheets (Dillehay et al., 1992:179)
- 7000BC -Humans with similar features to modern highland populations present in northern Andes. Cave-dwelling hunter-gatherers as high as 4050m in Huanuco, northern Andes. Similar habitation occurs in southern Peruvian highlands and Chile-Bolivia Andean ridges slightly later. (Bruhns: 57-9)
- 4000-3000BC -The maize agriculture of coastal regions begins to appear in the Andes and impact on alpine populations. However, hunter-gatherer practises are still most common. (Bruhns: 93)
- 3000BC -Permanent towns and ceremonial centres demonstrating specialisation (ie occupations other than farming and hunting) and distinct architectural trends appear in both Andean highland and coastal regions. (Bruhns: 97-103)
- 2500BC -Domestic living and agriculture appears en force in Andes. Maize becomes staple. Technology and cultural influences (eg tobacco, hallucinogenic snuff) imported from coastal regions. (Bruhns: 86) Start of 'irrigation civilisation' - efficient agriculture-producing central Andean civilisation which spreads throughout the Andes and culminates in the Inca Empire in three thousand years time. (Steward: 66)
- pre-2100BC -Ceremonial pyramids appear in Peruvian Andes, anticipating increasingly large and complicated ceremonial architecture in northern Andes. (Bruhns: 103-7)
- 2000BC -Unusual and marked lack of widespread ceramic (ie Neolithic) culture indicates lack of cultural intensification. (Bruhns: 109-11)  
-Mummification practices appear in isolated culture in southern Andes. (Bruhns: 106-112)
- 2300-1500BC -Ceramic cultures become widespread throughout Andes, though they had been occasionally present since 3000BC. (Bruhns: 117-125)
- 500BC -Formative era and intensification: proto-states appear, led by priest class, based around co-operative agricultural irrigation and temple cults. Coinciding technological intensification occurs, eg. metallurgy (bronze),

weaving, architecture, farm tools, fertilisers etc. (Steward: 70-73)  
Militarism was a feature, and anticipates widespread  
imperialist/expansionist tendencies of later Andean states. (Steward: 85)

200BC-450AD-Regional, affluent, stratified states: artisans, warriors, priests in addition  
to farmers. (Steward: 72)

1000AD -Period of internal consolidation of states gives way to expansionism and  
consequent appearance of pre-historic empires. (Steward: 85)

1450 -Inca Empire. Its foundation marks the peak of aboriginal Andean history  
and of Andean imperialism. The Inca Empire spread throughout the entire  
South American Alps, 2000 miles long, 50 wide. It displayed a high  
degree of organisational coherence through religious, military and political  
institutions as well as class-stratified society, but was limited to regions  
sharing culture similar to its own central Andean heartland (Steward: 112-  
143).

1532 -Spanish Conquest of Inca Empire. Originally a small Spanish army  
cripples the entire Inca Empire by treacherously seizing the king and  
pinching the socio-cultural structure of the Empire. The Spanish  
consolidate their hold militarily before the Incas are able to recover from  
this system-shock. (Steward: 142-3)

1572 -Spanish put down the last Inca uprisings and effectively destroy the  
Empire and proceed to wholesale exploitation of Inca wealth, most  
famously the gold. Spanish administrative control is consolidated; modern  
trading is introduced; Hispanisation gradually begins to combine with pre-  
existing socio-cultural traditions. Catholicism becomes dominant religion.  
(Steward: 144-155)

1650-1821 -Colonial administration securely established. Rebellions (1750-1821)  
lead to the establishment of independent republics appealing to old Inca  
traditions but using existing post-Conquest Spanish administration.  
(Steward:155-158)

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## Appendix 4 : Chronology of Human Occupation in Alpine Areas

### TIMELINE OF HUMAN OCCUPATION: EUROPEAN ALPS

- 1 million BC -Use of stone tools in lower Alps by humanoids of undetermined genus. Corresponding to earliest wave of human habitation in Europe.
- 400 000 BC -Isolated human presences in caves of lower Alpine regions of Switzerland. No technological advance from 1 million BC.  
-Villages seasonally occupied by hunter-gatherers.
- 100 000 BC -Human presences in higher Alpine regions (Drackenloch; 2445m); impermanent.
- 40-70 000 BC -Sparse settlement of lower Alps accompanied by continued nomadic and seasonal occupation of caves by various humanoids of varying genus, much like earliest presence. Presence of modern humans (Homo Sapiens.)
- 10 000 BC -End of the Wurm ice age. Increasing warmth leads to altitude of the Alpine tree-line rising to current height of 2400m. Expansion of human presence with the tree-line.  
-Arrival of Neolithic practices from Mediterranean and Balkans.
- 5500 BC -Arrival of Bronze Age practices.  
-Confined use of pottery, housing, primitive farming.
- 4500-4000 BC -Appearance of coherent distinct cultures, indicated by pottery styles.  
-Technological and cultural diversity and development increases with time. No coherent Alpine culture, however. Highly influenced by non-Alpine cultures via migrations, eg. Horgen migration from France of humans of more primitive culture and technology.  
-Development of farming and herding.
- 4000-2000 BC -Increased permanent settlement, though still limited to lower Alps despite fertility of higher Alpine regions.  
-Slow importation of 'Copper Age' technology.
- 1300 BC -Higher Alpine settlement spurred by copper prospecting, eg. Tyrol settled for copper deposits.  
-Celtic migrations into Alps, accompanied by gradual assimilation into various Alpine cultures.
- approx. 1000 BC -highly distinct cultures emerge, eg. Golasecca in NW Alps, Este in SE, Veneti in N.

- Transalpine routes bringing cultural and technological influence become more developed.
  - Settlement of inner Alpine regions and appearance of separate though incoherent inner Alpine cultures.
- 900-600 BC -Consolidated Mediterranean cultures (Greek, Etruscan, Pheonician, Balkan) become main political, religious and economic influence on Alpine cultures.
- Onset of Iron Age; brought to Alpine regions by Mediterranean cultures.
  - Salt mining leads to increased Alpine settlement, eg. Hallstatt, Salzburg. Leads to highly distinct Hallstatt culture by 600 BC.
- 387 BC -Celts conquer the Roman settlement on Tiber during mass migrations of Celts out of and across the Alps. Roman historian Livy records transalpine routes.
- Migrations accompanied by formation of political structures between Celts and various Alpine cultures, notably in Hallstatt where regnum Noricum, kingdom of Norici is formed.
- 218 BC -Hannibal crosses the Alps and joins settling Celts to defeat the Roman Army in 216 BC. The wars have variously little or no effect on development of Alpine cultures.
- 201 BC-7 AD -Punic Wars end. Roman Empire expands into Alpine regions and make use of mineral resources.
- Regional political structures based around towns develop. Various wars are fought against the encroaching Roman Empire, and during the reign of Augustus around the turn of the millennium the largest Alpine tribes are subjugated by the Roman Empire.

## TIMELINE OF HUMAN OCCUPATION: HIMALAYAN-NEPALESE ALPS

- undated prehistoric -First inhabitants probably inhabit S-E Himalayan hills. No sites or antiquities yet discovered. (Stein: 28) Two different sub-racial origins of prehistoric Himalayan peoples have been identified, each a mix of Turkic, Mongol, Indo and possible European. (Richardson: 5)
- c.1 BC – c.11 AD -Settlement of Himalayas accelerates without cause or chronological pattern. Ch'iang peoples from China inhabit Sino-Tibetan routes in lower Himalayan Alps. (Stein: 29). However later Chinese records consider Ch'iang as distinctly non-Chinese in origin, indicating cultural divergence. (Richardson: 5). Chinese records show presence various other Himalayan peoples throughout the mountains. These peoples have varying origins: Mongol, Chinese, Turco-Mongol, Indo-European. (Stein: 29).  
-By c.11 AD these peoples have developed distinctly and established isolated states throughout western Himalayas. (Stein: 29).
- c.7 BC -Mahayana Buddhism arrives via Nepal from India and China and is firmly established in Tibet. Monasteries appear.  
-Tibetans have been for two centuries gradually consolidating their coherence from clans to a nation with skilled metal workers and artisans and walled forts. They now emerge as the major power in the Himalayas and encroach upon neighbouring China and India and even Persia. Buddhism from China and India is their religion, and their king is a heroic religious monarch. (Richardson: 28-31).
- c.792 -Chinese Buddhism is banished from Tibet. Indian Buddhism becomes the major religion. (Richardson: 31).
- c.840 -Decline of the Tibetan religious kings and of Tibetan civilisation as the paramount Himalayan civilisation. (Richardson: 32).
- c.13 AD -Mongols gain sovereignty over Tibet by diplomatic means. (Richardson: 34)
- pre-c.16 AD -Geographical features form a border between Tibet and the largely unsettled Bhutan region. Such geographical features are common boundaries of ethnic, economic and political entities throughout Himalayan history. However, the spread of settlement and political developments increasingly soften these boundaries after 1500. (Karan: 32, 36).
- c.16 AD -Tibetan monks establish monasteries and forts in Bhutan, giving political shape to the existing settlements of the Bhutia Tephoo tribe, originally from India. (Karan: 32) Monasteries starting as and remaining the

foundation of settlement and society in Himalayan kingdoms, as in this case, is a common trend. (Karan: 32, 40).

-Travelling Tibetan lamas convert various Himalayan hill tribes to Buddhism.

- c.17 AD -Tibetan lama becomes Dharma Raja of Bhutan, thus establishing the kingdom of Bhutan. (Karan: 32)  
-Head lamas from Lhasa, Tibet, establish a Buddhist kingdom of Sikkim, previously vassal state of Tibet. (Karan: 57)  
-Bhutanese invasions (hoarding, slaving) of Sikkim occur. (Karan: 58)
- 1642 -Buddhism acquires dominance in Tibetan society and politics with ascendancy of the fifth Dalai Lama (head of one Buddhist sect) to religious and eventually political head of Tibet. (Richardson: 11, 38-42).
- c.17-c.19 AD -Consolidation of the kingdom of Bhutan. (Karan: 34).  
-British Imperial presence in India and Burma consolidates the borders of the various kingdoms. (Karan: 36, 58).  
-Gurkhas conquer Nepal region and establish a kingdom from the three pre-existing principalities. (Karan: 58, 83)  
-Sikkim diminished by Bhutanese and Nepalese expansion. (Karan: 58).  
-Migration of ethnic Hindus into Himalayan foothills.
- c.19 AD -British assume control of Sikkim; British protectorate declared 1861. Usual colonial conflict and upheaval occurs. (Karan: 59)  
-Nepal and Bhutan establish friendly relations with Britain. (Karan: 59)
- c.1900 -Hereditary kingship in Bhutan is consolidated under British supervision. (Karan: 35).
- 1947 -Newly independent India assumes control of Sikkim. (Karan: 61)
- 1950 -French expedition scales Annapurna, first 8000m peak to be scaled.  
-China occupies Tibet.
- 1953 -Norgay Tenzing and Edmund Hillary climb Mount Everest, world's highest peak.
- c.1950, 1960 -Chinese Communism increases political tension throughout Himalayas. Himalayan kingdoms assume strategic importance as buffers - politically and geographically - to Communist China. (Karan: 35, 61-2, 80).  
-Unresolved border disputes occur between Himalayan kingdoms and China on the basis of Chinese control of Tibet and thus of ancient Tibetan imperial claims to Himalayan territory. Also based on ethnic variations. (Karan: 35, 85-8).

-Increasing presence of ethnic Hindus in foothills becomes a significant political disruption. (Karan: 40).

## **TIMELINE OF HUMAN OCCUPATION: NORTH AMERICAN ALPS (ROCKIES)**

- 30 000BC -Humans occupy Siberia using stone age technology. (Farb:193)
- 13 000BC -First humans cross into NW America. Following bison trails they travel along the eastern flank of the Rockies and disperse from the plains. Some follow trails through low passes in the Rockies to the west coast. (Farb: 196-8; Wissler: 24)
- 13 000BC-1500AD-Dispersion of tribes leads to the development of various distinct cultural groups surrounding the Rockies, with the Rockies acting as a geographical barrier for such development. Plains Indians (bison hunters) east of the Rockies develop archetypal Mesoamerican culture. (Newcomb: 79-83; Wissler: 104-5) A distinctly different culture emerges among Northwest coast fishermen west of the Rockies, which also displays Asian influences. (Newcomb: 205-210). Subarctic and Eskimo influences spread above the north Rockies and filtered down the west side. (Newcomb: 205-7, 105-9; Wissler: 207) On either side of the mountains two cultures developed: plains and coastal, their geographical divergence solidified by but not necessarily caused by the presence of the Rockies. Tribes and their cultures naturally oriented themselves with their backs to the formidable Rocky Mountains, facing out to the provident ocean or plains. However, significant trans-Rocky relations and tribes existed. The Rockies were annually crossed by western tribes to hunt bison on the plains (Wissler: 119) and important trade and social exchange took place across them. (Baugh: 265, 321) Tribes such as the Blackfoot Confederacy lived on either side of the Northern Rockies, in its foothills as well as on the plains, and were familiar with its peaks as well as its trails and passes. However, no distinct mountain tribes, economics, cultures or even settlement developed. (Hungry Wolf: i-iii; 2)
- 1789 -Their hold in North America now threatened by the newly independent United States, the British search for a route linking Northwest coast trade ports to inland trading posts. Consequently Scottish trader Alexander Mackenzie becomes the first European to cross the Rockies. (Ward: 36)
- 1805 -Lewis and Clark cross the Rockies, depending on various tribes for supplies and guidance, and triumphantly declare the defeat of the Rocky Mountain barrier between the Plains and the coastline of the Pacific Ocean. (Ward: 42-7)
- 1820s-1840s -American fur trappers, assisted by various native tribes, find further routes through and into the Rockies. A lucrative trade develops and

American trappers settle and roam the mountains with familiarity. The trade diminishes in the late 1830s and by the 1840s few trappers remain. (Ward: 56-62)

1842-44 -John Fremont leads survey expeditions into the Rockies, further supporting Lewis and Clark's ebullient claim to have defeated the Rocky Mountains as a barrier between the Plains and the Pacific. (Ward: 97-101)

1850s -Gold strikes in the Colorado Rockies bring almost 100 000 prospectors and leads to the establishment of Denver. (Ward: 164)

## TIMELINE OF HUMAN OCCUPATION: SOUTH AMERICAN ALPS (ANDES)

- 10 500BC - Evidence of humans in the highlands with a possible earlier presence between 12,000 and 11,000BP. If the older levels of Pikimachay and Pachamachay turn out to be valid, the pattern of few older remains may simply show a light human presence characterised by occasional treks by lower altitude groups into higher lands, possibly during summer or periods of localized retreats of ice sheets (Dillehay et al., 1992:179)
- 7000BC -Humans with similar features to modern highland populations present in northern Andes. Cave-dwelling hunter-gatherers as high as 4050m in Huanuco, northern Andes. Similar habitation occurs in southern Peruvian highlands and Chile-Bolivia Andean ridges slightly later. (Bruhns: 57-9)
- 4000-3000BC -The maize agriculture of coastal regions begins to appear in the Andes and impact on alpine populations. However, hunter-gatherer practises are still most common. (Bruhns: 93)
- 3000BC -Permanent towns and ceremonial centres demonstrating specialisation (ie occupations other than farming and hunting) and distinct architectural trends appear in both Andean highland and coastal regions. (Bruhns: 97-103)
- 2500BC -Domestic living and agriculture appears en force in Andes. Maize becomes staple. Technology and cultural influences (eg tobacco, hallucinogenic snuff) imported from coastal regions. (Bruhns: 86) Start of 'irrigation civilisation' - efficient agriculture-producing central Andean civilisation which spreads throughout the Andes and culminates in the Inca Empire in three thousand years time. (Steward: 66)
- pre-2100BC -Ceremonial pyramids appear in Peruvian Andes, anticipating increasingly large and complicated ceremonial architecture in northern Andes. (Bruhns: 103-7)
- 2000BC -Unusual and marked lack of widespread ceramic (ie Neolithic) culture indicates lack of cultural intensification. (Bruhns: 109-11)  
-Mummification practices appear in isolated culture in southern Andes. (Bruhns: 106-112)
- 2300-1500BC -Ceramic cultures become widespread throughout Andes, though they had been occasionally present since 3000BC. (Bruhns: 117-125)
- 500BC -Formative era and intensification: proto-states appear, led by priest class, based around co-operative agricultural irrigation and temple cults. Coinciding technological intensification occurs, eg. metallurgy (bronze),

weaving, architecture, farm tools, fertilisers etc. (Steward: 70-73)  
Militarism was a feature, and anticipates widespread  
imperialist/expansionist tendencies of later Andean states. (Steward: 85)

200BC-450AD-Regional, affluent, stratified states: artisans, warriors, priests in addition  
to farmers. (Steward: 72)

1000AD -Period of internal consolidation of states gives way to expansionism and  
consequent appearance of pre-historic empires. (Steward: 85)

1450 -Inca Empire. Its foundation marks the peak of aboriginal Andean history  
and of Andean imperialism. The Inca Empire spread throughout the entire  
South American Alps, 2000 miles long, 50 wide. It displayed a high  
degree of organisational coherence through religious, military and political  
institutions as well as class-stratified society, but was limited to regions  
sharing culture similar to its own central Andean heartland (Steward: 112-  
143).

1532 -Spanish Conquest of Inca Empire. Originally a small Spanish army  
cripples the entire Inca Empire by treacherously seizing the king and  
pinching the socio-cultural structure of the Empire. The Spanish  
consolidate their hold militarily before the Incas are able to recover from  
this system-shock. (Steward: 142-3)

1572 -Spanish put down the last Inca uprisings and effectively destroy the  
Empire and proceed to wholesale exploitation of Inca wealth, most  
famously the gold. Spanish administrative control is consolidated; modern  
trading is introduced; Hispanisation gradually begins to combine with pre-  
existing socio-cultural traditions. Catholicism becomes dominant religion.  
(Steward: 144-155)

1650-1821 -Colonial administration securely established. Rebellions (1750-1821)  
lead to the establishment of independent republics appealing to old Inca  
traditions but using existing post-Conquest Spanish administration.  
(Steward:155-158)

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