

Chapter 13

cultural values

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Introduction

This chapter presents the cultural heritage values of Kosciuszko National Park organised under a series of themes. The historical content of each theme is briefly covered, and its manifestations within the park summarised. This is followed, for the items described under each theme, by a general assessment of their current dependencies, condition, pressures, knowledge gaps, opportunities for enhancement, desired outcomes and monitoring requirements.

The chapter is based on research already carried out. No new research work has been conducted for this study, but major gaps requiring more primary research or analysis have been identified. The chapter has been specifically written for the preparation of the Kosciuszko National Park Plan of Management.

An effective assessment of significance, and of management resources and measures required to sustain this significance, depends on the quality and consistency of the data available. We are fortunate that a range of researchers have done significant work on some of these cultural values, especially in preparation for, and as a result of, the 1992 conference on the cultural heritage of the Australian Alps. However, the work has been patchy and has not been done in a systematic fashion, using a consistent set of criteria. National Parks and Wildlife Service (NPWS) staff have also done some excellent work but there are still significant gaps in many areas. Studies for the comprehensive regional assessment for the Southern NSW Regional Forest identified places and values of indicative national estate significance within Kosciuszko National Park, and many others in adjoining areas (Commonwealth of Australia 1999).

This means that any overall assessment of significance will necessarily be similarly somewhat unsystematic. In particular, certain themes and areas have received little attention. The cultural heritage management strategies for 2001–06 for the Snowy Mountains region (NPWS 2001a) and for the south-western slopes region (NPWS 2001b) contain assessments of the major elements of the physical cultural heritage items within the park, but this work is brief and preliminary; indeed, the reports recommend further identification, recording and analysis of such items. For example, most of the items identified have not yet been assessed in terms of state heritage criteria. This chapter does not incorporate additional identification or analysis, because of time limitations. It has therefore been possible to assess significance only in general terms, using the overarching criteria of historic, aesthetic, scientific and social values. There is no doubt that some elements of the park's cultural heritage significance have been overlooked or perhaps misunderstood.

Lack of precise knowledge and data has also meant that in most cases it has been possible to assess dependence, condition, trends etc in only a very general way.

What is cultural heritage?

The New South Wales (NSW) National Parks and Wildlife Service (NPWS) defines cultural heritage as follows (NPWS 2002ac):

- Cultural Heritage is the value people have given to items through their associations with those items.
- 'Items' are manifestations of cultural heritage values. These may be non-physical and/or physical and include, but are not limited to, cultural practices, knowledge, songs, stories, art, buildings, paths, and human remains. When natural elements of the landscape acquire meaning for a particular group, they may become cultural heritage. These may include

"These values may be seen in places and physical features, but can also be associated with intangible qualities such as people's associations with or feelings for an item, or in cultural practices, knowledge, songs and stories."

landforms, flora, fauna and minerals.

- Historic Heritage: Items that contain physical and non-physical manifestations of cultural heritage values of human occupation and settlement after the arrival of non-indigenous people in Australia. Historic heritage includes both non-indigenous and Aboriginal cultural heritage values and can also be referred to as post-contact heritage.
- Pre-contact Aboriginal Heritage: Items that retain physical and non-physical manifestations of cultural heritage values of Aboriginal occupation and settlement prior to the arrival of non-indigenous people in Australia.

The criteria for assessing cultural heritage values are based on those used in the *Australian Heritage Commission Act 1975* and the Burra Charter of Australia ICOMOS (Australia ICOMOS 2000) to refer to qualities and attributes possessed by items that have aesthetic, historic, scientific or social value for past, present and future generations. These values may be seen in places and physical features, but can also be associated with intangible qualities such as people's associations with or feelings for an item, or in other items described above such as cultural practices, knowledge, songs and stories.

Cultural significance is a concept that helps in estimating the value of items. The items that are likely to be of significance are those that help to provide an understanding of the past or that enrich the present, and that will be of value to future generations. The criteria used to address the values of cultural significance, and the meanings of these values, are described below (derived from Lennon 1999).

Aesthetic value

This comes from people experiencing the environment. It 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 item and its use; the emotional response; and any other factors having a strong impact on human feelings and attitudes.

Historic value

An item may have historical value because it has influenced, or been influenced by, an historical figure, event, phase, period or activity. It may also have historical value as the site of an important event. For any given item 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 (e.g. massacre sites or explorers' landing sites).

Scientific value

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

Social value

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

Aboriginal values are embodied in the cultural, spiritual, religious, social or other importance an item may have for Aboriginal communities. Aboriginal items may have other layers of significance as well as those mentioned here; these meanings are defined by the Aboriginal communities themselves

This analysis in this chapter, while using the well documented term 'social value' as defined above, recognises that in one sense the overarching value of all heritage items is their value to society. Byrne et al. (2001) make the valid point that in another sense all cultural heritage items have a level of social value as an overarching attribute that includes other attributes such as aesthetic, scientific or historical values, which can be seen as subsets of the general social value.

Organisation of themes

In order to present, analyse and comment on the condition of the cultural heritage values of Kosciuszko National Park in a usable way, it is necessary to organise them under heritage themes. There are many variations on theme lists, which are slightly differently organised at national, state and local level.

On a general level, as part of a national heritage coordination initiative, the Australian Heritage Commission and state and territory heritage agencies are using a set of Australian historic theme groups. These are also useful in linking the local and regional alps events with nation-wide Australian themes (Australian Heritage Commission 2001).

The NPWS has used these Australian themes along with state themes and local themes to summarise the cultural heritage values of the two service regions that include part of Kosciuszko National Park, as shown in Table 13.1.

Table 13.1 Cultural heritage values of the NPWS regions that include part of Kosciuszko National Park

National themes	State themes	Local themes
Peopling Australia	Aboriginal culture - occupational and ceremonial sites Migration	Meeting place for 13 nations Snowy Mountains Hydro Electric Scheme workers
Developing Australia's cultural life	Leisure	Skiing, bushwalking and recreational activities
Developing local, regional and national economies	Environment - cultural landscape Pastoralism Explorers Science	Conservation of Kosciuszko National Park High country grazing Exploration of high alpine areas Scientific research Mining Timber getting
Building settlements, towns and cities	Utilities	Snowy Mountains Hydro Electric Scheme
Working	Labour	Migrant workforce
Marking the phases of life	Persons Birth and death Events	Myles and Milo Dunphy Strzelecki named Mount Kosciuszko

Source: NPWS (2001ab)

A lot of the detailed research that has been done on the cultural heritage of the Kosciuszko region has tended to follow one set of themes that was first published in Scougall (1992). These themes, which can be seen as sub themes of the Australian themes listed above, are expressed as a fairly simple and to some extent chronological scheme. They focus on the key human activities carried out in the area of the park and surrounding region and on the items that remain as evidence of these activities.

For the sake of consistency and ease of use, the same scheme, with a few changes, has been followed here as an organising principle, but during the assessment of significance we have referred back to the larger Australian and state themes where necessary. Argue (2000) provides very useful data for such links. The 1992 themes headed 'Exploration and Survey' and 'Transport and Communication' have been subsumed into other themes such as 'Pastoralism', or run right through all the themes, and the Aboriginal theme has been expanded. Thus the revised set of themes is as follows:

- Aboriginal history and heritage;
- pastoralism;
- mining;
- logging, timber product extraction and silviculture;
- water harvesting;
- science, research and conservation;
- recreation.

The analysis of each theme is organised as follows:

- brief description of the theme - an outline of the history of the theme in the park;
- manifestations of the theme in the park - description of items within the park, or associated with the park, that are related to this theme (note that the NPWS definition of an 'item' covers both the tangible and the intangible);
- significance of the theme as it is manifest in the park - analysis and description of the level of significance of the theme as it occurs in Kosciuszko National Park and analysis and description of the nature and level of significance of each major item or set of items related to this theme.

The significance of some items and landscapes within the park arises out of more than one theme. These themes are layered across the landscape and many of the places and landscapes within the Park relate to many of the themes. One outstanding example of this relates to the group of Kosciuszko huts (a tangible item) and another to the continued association of related communities to the park, because of their part in its history and their associated customs, knowledge and attachment (an intangible item). Key items such as these are described and analysed separately, as well as being considered as part of each relevant theme. This is in line with NPWS policies (NPWS 2002a) that suggest that cultural heritage assessment work should use the following principles:

- An integrated, or whole-of-landscape, approach with regard to the identification and assessment of all cultural (both Historic and pre-contact Aboriginal) and natural values;
- A cultural landscape approach to understanding the values of the item within its wider environmental/biogeographic, historic and social setting.

The themes

General introduction

The Alpine region ... constitutes merely 0.3% of the area of this time -worn continent, only one-fiftieth of whose surface rises above 1000 metres. Because of this unique topographic phenomenon among the continents, and because both human responses to environmental challenges and the nature of social and technological activities in mountainous terrain are distinctive, it is essential to treasure evidence relating to Australia's alpine cultural heritage. And not only for its scarcity value, or for its representativeness of unique living conditions and achievements; but even for its individuality rather than its typicality (Mulvaney 1992:9).

The Kosciuszko region has a unique natural setting and environment that have influenced its cultural heritage. It has the highest altitude in Australia, a large percentage of land above the snow line, characteristic alpine vegetation and fauna, a rugged terrain, bountiful natural resources, and a severe and unpredictable climate.

The harsh and at times dangerous climate and the remoteness and difficulty of access influenced Aboriginal and European settlement. Unique building and working adaptations, and seasonal use of the high country, characterised European use of the area for much of its history. Topography had a great influence on movement through the area: routes were pioneered by Aborigines and used by pastoralists, miners, loggers, bushwalkers, engineers and park managers. The natural resources - bogong moths and uplands food resources, pasturage, gold and other minerals, timber, water, and indeed snow and scenery - have created a series of waves of settlers and transient users that have combined to give the alps in general and Kosciuszko in particular a rich and unique heritage.

Aboriginal people came to the general region at least 21,000 years ago, and there is evidence of them in Kosciuszko 4000–5000 years ago (Mulvaney and Kamminga 1999). The alpine people developed a unique and successful lifestyle, of which many traditions remain today despite the effects of European settlement. By the 1820s, squatting pastoralists with cattle were present at Tumut and spreading into the higher alps. For 135 years there was permanent pastoral settlement in the lower areas of the park and summer grazing in the high country, with the resultant development of a unique way of life and traditions.

Payable gold was discovered at Kiandra in November 1859, creating the first alpine gold rush; small-scale mining of gold and other metals continued throughout the century. Mining became more highly capitalised during the 1970s/80s with the introduction of hydraulic sluicing and dredging, which remained until the 1930s. Stamper batteries also illustrated the increasing capitalisation of Snowy Mountains reef mining. The area has also been used for the logging of native timber, harvesting of eucalyptus oil and forestry plantations. Skiing was introduced by the miners at Kiandra in the 1860s and has developed into a major industry, along with other recreation pursuits, especially bushwalking.

A continuing theme has been a strong appreciation of the park's aesthetic and natural qualities. Recognition of the unique qualities of Kosciuszko has meant that research in many fields, and efforts at conservation, have continued almost since the beginning of European exploitation of the area. Two great changes to the area occurred in the 1940s - the creation of Kosciusko State Park, later to be expanded into Kosciusko National Park; and the development of the Snowy Mountains Hydro Electric Scheme, which brought great physical and social changes to the area, and to Australia more generally (partly summarised from Ashley et al. 1991).

This rich alpine history is not confined to Kosciuszko. It applies more generally to the alps as a unit, and can be fully understood only by considering the whole of this biogeographical unit. Describing the cultural heritage values of Kosciuszko National Park is an essentially artificial exercise in this context.

Aboriginal history and heritage

Brief description

The emphasis on research into this theme in the park has tended to be an archaeological one. This is part of a general past tendency discussed by Byrne et al. (2001). This has meant that most of the items recorded have been archaeological remains, and most of the emphasis has been on recording, conservation and management of this part of the Aboriginal heritage. Other areas have been neglected to some extent - for instance, Aboriginal post-contact history, Aboriginal lifestyle and ceremonial life - although there are some exceptions such as the significant work of Young, Mundy and Mundy (2000). Most importantly, contemporary Aboriginal connections, attitudes and custodianship aspirations have not been articulated.

Recent consultation with the Aboriginal people who have cultural connections with the alps has been undertaken on behalf of the Australian Alps Liaison Committee (AALC) by Golding and Buckley (2002). This consultation points to the need for a much more

in-depth study to assess Aboriginal significance, and makes some general comments about significance which are relevant to future planning for the area:

Living landscapes

Some participants in this consultation process emphasised that cultural landscapes are living landscapes. They felt that land managers need to recognise that Aboriginal heritage values can live on in living Aboriginal people rather than seeing them as static “artefacts” of the past. It was also remarked that the views of archaeologists – fostered by heritage law – have encouraged the perception that artefacts left by ancestors are more important than the knowledge of living Aboriginal people: “These aspects of culture should not be separated”.

Culture includes Aboriginal post-contact heritage

It is clear that places relating to the post-contact period of Aboriginal history in the alps are valued by Aboriginal people. The point that was made frequently in meetings is that Aboriginal history is a continuum that started thousands of years ago and continues right up to the present. Cultural attachments to the alps that fall within the post-contact period can be just as significant as attachments that were formed in pre-contact times. (Golding and Buckley 2002, Chapter 3)

Little systematic work has been done in the park to establish the history of its Aboriginal occupation, the nature of contemporary Aboriginal links with land or the survival of traditional knowledge and practices. In these circumstances a full assessment of significance for this theme is not appropriate and would only continue the biased emphasis of previous work. A complete description and assessment of this theme must await the Aboriginal consultation process now under way. This chapter is therefore brief, tentative and open to correction by the Aboriginal custodians.

The Australian Alps provided a significant challenge to the first settlers, who adapted to the harsh environment very early. The evidence from the Birrigai shelter in the ACT (Flood et al. 1987) and New Guinea II Cave (Ossa et al. 1995) indicates that they were living on the fringes of the Australian Alps 21,000 years before present (BP) at the height of glaciation. In Kosciuszko, evidence from archaeology has so far revealed occupation 4500 years ago (Kamminga 1992). Kamminga notes that in the southeastern highlands generally there is a trend towards more intensive occupation from about 3000 years ago (Mulvaney and Kamminga 1999) but he also concludes that it is likely that evidence for Late Glacial Maximum era occupation sites (more than 20,000 years old) 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. Kamminga speculates that low visibility for possible earlier sites means that they have so far eluded detection. The subalpine and vegetated alpine environments in eastern Australia were vastly expanded during this time (Lennon 1999, citing Hope and Kirkpatrick 1988). Grasslands and open woodlands extended from the lower montane valleys to surrounding tablelands and beyond and were able to provide ample plant foods (Lennon 1999).

Numerous archaeological surveys have been conducted on the highland plateaus and less dissected ranges northeast of the divide. The distribution of site locations recorded so far suggests that both the wider river corridors and the major ridge lines were used as access routes through the ranges, the most common site type consisting of a low-density surface scatter of a small (up to 20) to medium (between 21 and 50) number of stone artefacts. Sites are almost exclusively located on level or low-gradient, well-drained ground. Within highly dissected ridge and valley topography, the proximity of soaks and springs close to ridge top locations appears to be an important site location criterion (Navin and Officer 2000). A search by Navin and Officer of the NPWS Aboriginal sites register revealed 89 recordings within an area 35 km \times 40 km centred on the Main Range, alpine plateau and associated northern and eastern ranges. Of these, 24 recordings occur above 1550 m and just six above 2000 m. All consist of surface artefact scatters and are classed as open campsites.

Other remains that have been noted within the park and recorded in the park site register include ceremonial grounds and stone arrangements, burials, quarries, scarred trees and shelters with deposit (Lennon 1999). There is also an intriguing reference to the previous existence of cave paintings in Cooleman Caves (Good 1992). In Chapter 7, Spate refers to evidence of Aboriginal use of the karst systems of Kosciuszko.

The potential range of items of cultural significance to Aboriginal people within Kosciuszko is much greater than this list implies. Recent consultations with Aboriginal people of the alps produced the following tentative and preliminary list of uses (Golding and Buckley 2002):

- travelling routes/tracks/pathways/trade routes;
- dreaming trails;
- burials;
- spiritual places/attachments;
- ceremonial places;
- story places;
- camps/meeting places/social places/trading camps;
- named places;
- massacre sites;

- food and medicine collection localities;
- raw material collection localities;
- birthing places;
- men's and women's sites;
- recreational places;
- historic camps;
- places where people worked;
- reserves (adjacent to the high country);
- missions;
- views of the mountains (from the coast);
- ancestor's country.

Early observers and later anthropologists and historians (e.g. Howitt 1904; Tindale 1974; Flood 1980; Wesson 2000; Jackson-Nakano 2001) have provided differing versions of the Aboriginal language groups and boundaries associated with the park at the time of first European settlement. Navin and Officer (2000) have also attempted a useful synthesis of some of this complex data.

The combined evidence, though often contradictory, suggests that the following groups had traditional connections to country that is now defined as the Australian Alps (Golding and Buckley 2002):

- Wolgol [Walgalu];
- Ngarigo [Monero-Ngarigo; Ngarego; Ngarrugu];
- Wiradjuri;
- Ngunawal [Ngunnawal];
- Krautatungalung;
- Brabiralung;
- Braiakaulung;
- Gunai/Kurnai;
- Minjambuta;
- Djilamatang;
- Jaimathang [Yaitmathang];
- Duduora;
- Biduelli [Maap; Bidawal; Birdhawal];
- Wurundjeri;
- Taungurung.

However this information can be misleading, because of the misunderstandings of early informants, and because of lack of input from Aboriginal people of today who retain important traditional information. More research with and by the Aboriginal people is required on this issue.

These groups are often referred to as tribes by early settlers, but the concept of the tribe is in some respects inappropriate for Aboriginal Australia (Mulvaney and Kamminga 1999). The groups were interactive, probably with bilingual skills and complex territorial, ceremonial, marriage and trading relationships, and all had some traditional and acknowledged rights within the area now known as Kosciuszko National Park.

The resources used for food included a wide range of land animals, reptiles, insects and small crayfish. Plants formed a very important part of the diet, especially edible tubers (Mulvaney and Kamminga 1999). Plants were used for medicines and fibres for making baskets, string and other objects. Aboriginal people survived the harsh environment of the high country by dressing in warm skins, mainly of wallabies or possums, and covering the exposed parts of their bodies in animal fat. They also knew which areas were havens from extreme cold (Hampson in NPWS 2001a).

The seasonal exploitation of the bogong moth (*Agrotis infusa*) was a major reason for Aboriginal visitation to the high peaks and ridges of the Snowy Mountains. Local groups such as the Ngarigo were joined by clans travelling long distances to large intertribal gatherings, which occurred in association with the collection of the moths and which included various ceremonies and the trading of commodities. These gatherings mediated and maintained the political and social links between the differing linguistic and social groups that used the Snowy Mountain regions. (Navin and Officer 2000). The gatherings involved at least 13 Aboriginal groups from as far as Melbourne to the south, Yass to the north, and the South Coast to the east, and from parts of the Central West of NSW (Young 2000). (Young, Mundy and Mundy is an important source of information for these sections in the present absence of a full Aboriginal interpretation of this era. They have collected and made available many of the early settler's, newspaper and official accounts which describe post contact Aboriginal history. By their nature these reports are

subjective and culturally naive and illustrate the contemporary bias towards Aboriginal people. For this reason some National Park staff have reservations about the use of this source in this document. However the authors are confident that Young, Mundy and Mundy have done a good job of initial analysis and consider that their collected records, judiciously used, provide important evidence for post contact Aboriginal history.)

The early settlers vividly described these gatherings and perhaps overstated the role of the moths as a staple food. They were probably a highly prized and ceremonial food rather than a staple food (Chapman 1977; Kamminga 1992; Grinbergs 1992). The gatherings took advantage of the abundant food found during the summer, including fish, eels, possums, kangaroos and wallabies, and a number of birds that also feasted on the moths. The moths were collected from large groups of granite tors called boogongs (Hampson in NPWS 2001a). Each of the groups had their own boogong, to which they returned every year. The gatherings involved some 500–1000 Aboriginal people each year over a two-month period (Good 1992; Mulvaney and Kamminga 1999).

Several major access routes into the Snowy Mountains have been identified by researchers from oral accounts handed down by early white settlers, and backed up by archaeological work (Mulvaney and Kamminga 1999). These routes were associated with particular corroboree or ceremonial grounds and ritual procedures. (Navin and Officer 2000).

Young, Mundy and Mundy (2000) provides numerous vivid accounts of Aboriginal people of this period, when the impact of Europeans was minimal. Despite the bias expressed in some of the accounts, they show a thriving society, very well adapted to the highest country in Australia and with a range of sophisticated exchange patterns, a rich religious and ceremonial life and a very active social existence.

Aboriginal people would have been affected by disease and the disturbance of traditional boundaries before the first Europeans arrived in the district. When the first pastoralists came, many were guided by Aboriginal people, especially to the high country (Young, Mundy and Mundy 2000); Young Mundy and Mundy give many lively accounts of first encounters and of the mutual curiosity and methods of communication and exchange that followed, some of which occurred at places that may be identifiable today. Some of the first comers were convict servants, often left to their own devices. There was soon the type of frontier war that was common throughout Australia, with many recorded massacres and strong Aboriginal defence of their country (Young, Mundy and Mundy 2000). At the same time, attempts were made to placate the Aboriginal landowners with blanket distribution and the awarding of king plates (Young, Mundy and Mundy 2000). Crown land commissioners were appointed in 1837. Their role was to protect the Aboriginal people, but their reports relate the usual story of disease and decline. In these circumstances, social and ceremonial life were very much disrupted (Young, Mundy and Mundy 2000; Hampson in NPWS 2001a). At the same time there is ample evidence that Aboriginal people were becoming very important to the pastoral industry. Young, Mundy and Mundy document a number of instances of skilled Aboriginal assistance, and cites the appearance of Aboriginal employees in a number of station ledger books of the period.

With the gold rush, the non-Aboriginal population more than doubled and Young, Mundy and Mundy (2000) suggest that there was a change in attitude from curiosity, fear and some sympathy to contempt and racism. The general attitude to the Aboriginal people of the district during the latter half of the 19th century was that they were a 'fading race'. The Aborigines Protection Board gradually moved people to reserves such as Delegate and Brungle Reserve at Tumut, and they were forgotten by the wider world. By the end of the 1920s and 1930s the last people from the Delegate reserve had gone to the south coast of NSW and to Gippsland (Young, Mundy and Mundy 2000).

There are very few tangible items recorded within the park relating to the post contact period. This is in part because some of the evidence is ephemeral but also because systematic work with Aboriginal informants has yet to be undertaken. Many of the remains of the pastoral era homesteads, such as huts and yards, would also have a strong association with this theme - an association that should be recognised.

The resilience of the Aboriginal people and their retention of their culture is another very important story. Ironically, in part because of their exclusion from white society and compression into reserves, they retained important elements of their culture, including traditional and religious knowledge and practices, social relationships and a strong sense of place. Howitt (1904) found this to be so at the end of the 19th century, and Egloff was able to trace a similar pattern of continuity in the 1970s (Young, Mundy and Mundy 2000:346; see also Hampson in NPWS 2001a).

There is a lot of evidence of the continuity of knowledge and association between these people and the park and of the continuation of traditions and assertion of rights throughout the colonial period. In 1927, for example, an Aboriginal man named Jimmy Clements walked to Canberra from Tumut, for the opening of the new Parliament House by royalty, protested about the treatment of Aborigines in Australia on the spot where the Aboriginal Tent Embassy now stands, and specifically requested land rights. This man passed onto his large family a wealth of information and knowledge about Aboriginal use of at least 170 alpine plants, now being documented by an Aboriginal site officer (Mason 2001) and used to educate park visitors. Aboriginal knowledge, tradition and use of the high country still survive and are important elements of the traditional and contemporary significance of the park.

Manifestations of Aboriginal heritage and history in the park - cultural heritage items

Tangible items

Aboriginal access routes and traditionally exploited resource areas within the park, including:

- valley floor corridors and ridge and spur line crests, which may have served as access routes through the high country and formed part of a seasonal cycle of Aboriginal occupation;
- bogong moth aestivation sites;
- grasslands and herb fields in which edible plant tubers could have been collected, and animals such as wombats and possums hunted and trapped;
- natural landform features such as mountains, boulder fields and valleys that formed an integral part of a broader alpine and subalpine cultural landscape;
- the general natural environment values present in the habitat, plants, animals and landscape of the study area, which were valued as important contextual components of the broader cultural landscape.

There are probably also elements of the landscape, natural features, and geographical locations that are sacred or significant story or ceremonial places known to the Aboriginal community. (See above for an extended list of the possible items.)

- Very numerous scatters of stone artefacts, in some areas, with depth of occupation deposit, which illustrate the widespread and long occupation of the park by Aboriginal people, and many of which appear to be associated with the bogong moth festival (Navin and Officer 2000);
- Recorded ceremonial grounds and stone arrangements, burials (some in caves), quarries, scarred trees, and shelters with deposit (Lennon 1999);
- Places that relate to post-contact history, including possible Aboriginal associations with items listed under other themes, especially the pastoral theme;
- Places significant for their current/ongoing cultural uses such as teaching and discussing lore.

For more detail concerning tangible Aboriginal heritage within the park, see NPWS (2001ab).

Non-tangible items

- Traces of Aboriginal nomenclature that may survive in some contemporary local names:
 - Munyang (or Muniong), for example, is thought to be the Aboriginal name for the Main Range or alternatively named after the native yam *Microseris scapigera*, which was known as mur-nong by the Wurundjeri (west of Tumbarumba), but as me-wan by the Ngarrugu (Navin and Officer 2000);
 - Evidence of traditional Aboriginal use at the time of the European settlement exists in names such as Dicky Cooper's Bogong, and Paddy Rush's Bogong for particular peaks in the mountains (Good 1992; Slattery 1998);
 - It has also been suggested that the name Tom Groggin is derived from an Aboriginal word (Don Maxwell, pastoralist, pers. comm., October 2002).
- Ethnographic and traditional evidence of the successful and unique adaptation of Australian hunter-gatherers to the alpine environment:
 - There is ethnographic and traditional evidence of the bogong moth festival, an occurrence unique in Australia, and with important parallels to other such Aboriginal gatherings to harvest natural resources, such as the bunya nut festival in Queensland.
- Traditional knowledge of the environment and its resources, stories, traditions, descent lines, customs and spiritual associations maintained and passed on by Aboriginal people descended from those who inhabited the area at the time of first European settlement.

Significance of Aboriginal history and heritage as it is manifest in the park

Aboriginal cultural heritage values within Kosciuszko are manifest by the continuity of Aboriginal history represented by the connection of Aboriginal people with the natural environment (landscape, habitat, plants and animals), ethnographic accounts, traces of past occupation revealed by archaeological investigation, and the ongoing involvement and knowledge of current local Aboriginal groups (Navin and Officer 2000). The following list was adapted from Navin and Officer (2000).

- The Snowy Mountains alpine and subalpine regions are of high cultural significance to the descendants of the Aboriginal tribal groups who occupied and visited them;
- This alpine and subalpine Aboriginal cultural landscape includes places and pathways of special social and historic significance to Aboriginal people - some remembered in oral tradition, some documented in 19th century records, and some revealed by archaeological investigation;
- All of the Aboriginal heritage items documented within the park are considered to have potential historic and social significance to the local Aboriginal community. (but note that in their comments on this chapter Cultural Heritage Service staff have suggested that minor or degraded sites may not have much significance to the local Aboriginal community).

These sites in total provide a tangible link to a past way of life and manifest a cultural tradition of Snowy Mountains occupation and a sense of social identity that is given a high cultural value amongst many members of the Aboriginal community. (See Golding and Buckley 2000);

- The significance of these sites to Aboriginal people encompasses both material and non-material aspects;
- The potential use of sites such as these for teaching and education about Aboriginal culture is also a recognised component of significance.

The Kosciuszko high country was the traditional gathering place for the bogong moth festival, one of the most important Aboriginal cultural and social events in south-eastern Australia. Because of the importance and uniqueness of the festival, the ethnographic evidence, the continuing Aboriginal tradition about this event and the sites, routes and physical remains of the activities associated with it are of *scientific, historic and social value at a state and possibly a national level*.

The surviving archaeological resource within the park is a *historically and scientifically significant* component of the alpine and subalpine heritage landscape. The proven occurrence and distribution of subsurface artefacts within the alpine and subalpine environment provide both a marker of past Aboriginal occupation and an opportunity to study Aboriginal adaptation and exploitation of the high country. They provide evidence of a long history of Aboriginal occupation in the alpine areas of Australia, demonstrate successful adaptation to new environments unique to Australia, and have potential to provide important new information about the length and nature of Aboriginal occupation (Navin and Officer 2000).

Predictive analysis from surveys to date shows that large areas of the park have *significant research potential*, in the form of surface scatters of stone artefacts and possible archaeological deposits that will provide more information about Aboriginal occupation of the area and probably push back the date at which it can be demonstrated that Aboriginal people first settled in Kosciuszko. The new evidence for increased Aboriginal use of the alpine country, as well as being significant to Aboriginal people, provides important information for any researchers interested in the story of human adaptation to this ancient landscape. Lennon (1999) argues that some elements of the Aboriginal heritage of the park have potential *international significance*.

Sites associated with the contact period and post-contact Aboriginal life and history, including items from the pastoral and mining era, are also of potential *regional historic and social significance*, although not much research has been done to identify them or to pin down their associations.

Dependence

The nature reserves and parks of the alpine region conserve a significant variety of ecosystems and terrains. They have the potential to be available to Aboriginal people to continue their cultural traditions in a way that is lacking in surrounding areas. The management regime in these areas is comparatively favourable to conservation, and therefore most of the remains of Aboriginal settlement and evidence of Aboriginal occupation are probably better preserved here than in many other areas in the region and will continue to be so. Of these reserves, Kosciuszko National Park is the largest and has the greatest variety of ecosystems and topography. It is also the centre of the ceremonial activities connected with bogong moths, has a high density of recorded sites in some areas, and has rich associated ethnographic and contemporary Aboriginal information.

For these reasons the continued existence and conservation of values related to Aboriginal history and heritage in the alps depend on their expression in the park to a very significant degree.

Condition

There is insufficient evidence to assess the condition of Aboriginal heritage items within the park. There have been no systematic surveys of these items and no overall assessment of their condition. (An exception may be a Baseline Heritage Study of Kosciuszko National Park (Johnson and Jones 1991). However this document has not been available for study.) What follows is therefore necessarily generalised.

The condition of both physical remains and the cultural traditions and uses associated with them has declined dramatically since European settlement because of the loss of continuity and control by Aboriginal people. Aboriginal connections and traditions - the non-tangible values connected with Aboriginal history and heritage - have been violently and significantly damaged in the past by the processes of the European settlement and dispossession.

The present lack of formal Aboriginal involvement can be considered to be seriously affecting the condition of these remains and traditions, which cannot be clearly recognised, articulated or curated in this situation. The present plan of management does not acknowledge these issues and does not provide adequate management for them. Over the last two decades gradual recognition of Aboriginal traditions, the employment of Aboriginal staff and research and documentation in this area have improved the chances of preventing the loss of these values or further damage to them, but this trend requires active augmentation and management support.

Physical remains of Aboriginal history and heritage have been destroyed since the park was created, because of lack of proper consultation of systematic or project-specific archaeological and anthropological surveys.

Because of the widespread nature of the items and the lack of comprehensive information about them, any new development and some present management practices have the capacity to damage them. New developments for tourism or associated

purposes within the park are a cause for concern since they will lead to the gradual attrition of the resources and since they may endanger areas of unknown significance.

While the condition of the majority of the known physical remains is relatively stable, and the management regime that is now in place goes some way to ensuring less inadvertent destruction than previously, many of the physical remains are also subject to natural weathering and erosion.

Overall, it would appear that the condition of Aboriginal heritage items within the park is at best average and in many cases degraded or in danger of being so.

Pressures

The present plan of management does not provide an effective framework for the identification, conservation and management of the Aboriginal heritage in the park, nor does it accord this conservation value sufficient priority. The NPWS regional cultural heritage strategies (NPWS 2001ab) provide only very low key and limited recommendations on Aboriginal heritage.

The lack of a full and comprehensive survey and analysis of the park's Aboriginal cultural heritage and contemporary Aboriginal links to it, conducted in association with the traditional owners, is a major lack that threatens inadvertent damage or destruction, misinterpretation and inappropriate use.

Increasing tourism and the increasing demands of development have potential to cause damage or destruction to items of Aboriginal heritage and elements of Aboriginal traditional use, and to cause the gradual attrition of the Aboriginal cultural landscape.

The lack of support for local Aboriginal organisations, and the disruption and frustration caused by historical displacement and current native title issues, impinge on the ability of Aboriginal people to present a united and effective voice on park management.

The traditional European emphasis on scientific (archaeological) research and on the role of men in Aboriginal society has left a legacy of biased recording and analysis of Aboriginal cultural heritage that has yet to be redressed. This has led to misunderstanding and downplaying of some aspects of Aboriginal culture in the park and an emphasis on places at the expense of landscapes.

There is a potential for conflict between the conservation of Aboriginal sites and some present management practices.

Aboriginal people and Aboriginal landscapes tend to be invisible to many Australians; in particular, contemporary Aboriginal connections in south-eastern Australia often go unrecognised or in some instances are actively denied. This situation constitutes a threat to the conservation and appreciation of the Aboriginal heritage in Kosciuszko.

Knowledge gaps and further research

There has been no systematic study of the Aboriginal cultural heritage of the park. Such a study, with emphasis on current traditional Aboriginal knowledge and interpretation, is essential before proper analysis of significance and long-term effective management can be achieved.

There is a need for the development of a much more comprehensive and sophisticated database on cultural heritage within the park, controlled by the Aboriginal community.

Aboriginal people involved in the recent consultations described by Golding and Buckley (2002) identified a range of specific research projects that they considered should be given priority. Argue (2000) identifies other gaps, especially in the archaeological record.

Opportunities

The NPWS regions in which Kosciuszko is situated have developed some strategic directions for cultural heritage management (NPWS 2001ab). These strategies are not well developed for Aboriginal heritage. This is in part because it is recognised that much greater active involvement by traditional Aboriginal custodians and the local Aboriginal community is needed before such a strategy can be developed. However the NPWS strategies provide general management policies relating to management of Aboriginal heritage that are well founded and will assist with improving the condition of Aboriginal cultural heritage items within the park.

n the management of Aboriginal cultural heritage, the NPWS acknowledges the following:

- Aboriginal people were the original inhabitants of the land, are the rightful custodians of their culture and may have a unique view and set of management principles that need to be recognised in the management of their cultural heritage;
- Decisions about Aboriginal heritage management should be taken at the local level by the relevant Aboriginal people, and only after considering the range of issues and interests of all groups, including the broader community;
- The connective nature of Aboriginal cultures across the landscape makes it difficult to separate on-park and off-park cultural heritage management;
- There are inseparable links connecting Aboriginal cultures to the land and to their everyday lives so that managing Aboriginal cultural heritage is as much managing lifestyle issues, such as access to and use of resources, as it is managing places and landscapes;
- Natural and cultural elements of Aboriginal culture are inseparable;
- Elders and Aboriginal owners (under the Aboriginal Land Rights Act 1983) within Aboriginal communities are respected for their cultural knowledge and have a special role in the consultation process;
- Consultation with Aboriginal communities must be carried out using culturally appropriate time frames and methods;
- People in the Aboriginal community hold concerns about intellectual property rights and the way that cultural information is obtained, stored, accessed and used;
- Male and female elements of Aboriginal cultural heritage need to be considered in the process of consultation, distributing resources, information storage and access, and ongoing management;
- Historic heritage places and landscapes may have an Aboriginal heritage component that needs to be acknowledged and managed to reflect the co-existence of European and Aboriginal heritage;
- Aboriginal communities need to develop working relationships and protocols with local government authorities and other land management agencies for the management of sites and places off-park.

Taking this into account, the NPWS has developed a tentative priority management schedule for Aboriginal cultural heritage within the regions that contain parts of Kosciuszko National Park, with a primary management focus on conservation and community involvement. Specific goals identified are general and very low key - the establishment of an Aboriginal heritage committee, community consultation and the prioritisation of management of identified Aboriginal heritage places and landscapes.

Two new opportunities have recently arisen. NPWS has commissioned a study of Aboriginal interests and involvement in the park; this is under way. Also in final draft is a study of Aboriginal traditional and contemporary attachment to the Australian Alps more generally, which provides excellent general advice on the issues and concerns of contemporary Aboriginal people with a traditional connection to the area (Golding and Buckley 2002). This contains a good description of desired outcomes expressed by Aboriginal people in the Alps generally and will assist in developing appropriate policies for the park. The outcome of both these studies will considerably augment knowledge and appropriate management practice and should be part of the new plan.

Summary of themes and issues (from Golding and Buckley (2000)

Principal Themes and Issues Raised by Aboriginal People

A. Issues Identified

- A1. Who Speaks for Country
- A2. Access to Country
- A3. Representation of Aboriginal Culture in Alps Interpretative Material
- A4. Renaming Landmarks
- A5. Community Control Over Cultural Information
- A6. Tourism

B. Management Processes

- B1. An Active Role for Aboriginal people in Management of the Alps
- B2. Developing Partnerships with Land Management Agencies
- B3. Employment of Aboriginal People in Land Management
- B4. Protection of Aboriginal Cultural Heritage Values
- B5. Environmental Protection and Management Issues

C. Improving Processes

- C1. Fostering Connections Between Groups
- C2. Aboriginal Representatives on the AALC and the CHWG
- C3. Improving Consultation with Aboriginal People

D. Research Directions Identified

- D1. Future Research into Aboriginal Heritage in the Alps

Desired outcomes

To bring the condition of the Aboriginal heritage items within the park to a satisfactory condition, the following outcomes need to be achieved:

- a sophisticated and comprehensive database of Aboriginal cultural items within the park, under Aboriginal control, which provides an up-to-date record of tangible and intangible items and their condition;
- an effective and formally established Aboriginal custodianship regime within the park, including a viable structure and the provision of resources for Aboriginal control of matters of traditional Aboriginal heritage;
- the provision of adequate access to the park for relevant Aboriginal people and groups;
- the development and implementation of comprehensive Aboriginal heritage research and interpretation plans in association with the Aboriginal community;
- the avoidance of deliberate or accidental damage or disturbance to significant Aboriginal heritage items within the park, and the establishment of a management regime that effectively minimises damage from natural processes;
- the conservation and interpretation of the most important elements of the Aboriginal cultural heritage of the park as identified by comprehensive surveys and analysis in association with the Aboriginal community;
- formal recognition that many of the Aboriginal cultural heritage values of Kosciuszko are landscape-based, and extend outside the park's boundaries, and the development of management policies that reflect this approach;
- the development of a monitoring system that measures the extent to which these outcomes are being achieved.

Pastoralism

Brief description

Don Maxwell, a local pastoralist whose family has a long history in the area, explains the pastoral history of Kosciuszko as a series of consecutive waves that closely reflect the history of the European settlement of Australia (Don Maxwell, pastoralist, pers. comm., October 2002).

The first wave of squatters, mainly from Monaro, came between 1823 and the 1830s. By 1823 the Prendergast family had settled the country around Jindabyne, and a group led by Captain Mark Currie and Major John Ovens first documented the existence of the mountains, viewing them from the distance, from north of Cooma. Other explorers and many grazing families followed (Good 1992). Pastoralists' access from the wider region to the biogeographic unit of the Alps was facilitated by prior Aboriginal land use patterns. Every explorer and squatter of note in the alpine district was assisted by at least one Aboriginal guide without whom little progress would have been achieved and loss of life would have been incurred.

By 1830 European settlers had arrived in the vicinity of the Alps to depasture their flocks and herds, and all the large station properties of the Monaro were established. Permanent pastoral settlement, as well as the perhaps more romanticised transhumance of stock to the high country, is very important in the history of the Kosciuszko region. Early family names associated with grazing in the area included Brooks, Ryrie, Spencer, Crisp, Slack, Buckley, York, Hall and Campbell. (Don Maxwell, pastoralist, pers. comm., October 2002). These early grazing families established permanent settlements in the foothills of the high country. In 1837 John Lambie was appointed the first Commissioner of Crown Lands for the region centred on the Monaro (Good 1992). Dr Andrew Gibson had taken up Kiandra by 1830, and his friend Terence Murray took up Coolamine in 1838. Convicts 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 (Lennon 1999).

The numbers of these early comers were augmented in the next decades by increasing migration from Britain, and other parts of Australia, into the high country. A notable group of settlers from one location in Scotland was part of this migration (Don Maxwell, pastoralist, pers. comm., October 2002). Drought in the late 1830s caused squatters from the Monaro to seek the high country for grazing. In 1845 William Bradley alone reported having 50,000 sheep and 2000 cattle on summer drought refuge pasturage in the Mount Jagungal area (Good 1992).

In 1839, routes from the north over the Brindabellas were established. In 1840 Europeans climbed into the highest Alps, attracted by the mountains themselves. Count Strzelecki climbed to the top of Mount Kosciuszko and named it on 12 March 1840 (Lennon 1992), though there is some dispute as to which mountain he actually climbed (Good 1992). 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, though the severe winters of the high country checked permanent occupation and grazing there (Lennon 1999). To many locals looking back, the decades that followed constituted the best years for pastoralism - good rain, increased access and infrastructure, and custom from mining activities. During this period stock travelled long distances to Victoria to both settle Victoria and supply Victorian goldfields (Don Maxwell, pastoralist, pers. comm., October 2002).

The Robertson land acts of the 1860s brought the third stage of pastoralism, with closer settlement and a new wave of selectors that essentially ended the long period of 'squatting' occupation. With the coming of closer settlement, summer grazing leases were established in 1889 and became necessary as drought refuges (Lennon 1992).

The late nineteenth and early twentieth centuries brought drought and depression. At about the same time, the first warnings of environmental damage (erosion, overgrazing of natural pastures, regular burning of the forests and scrubs) to the high country by grazing were made by Maiden, Helms and others (Good 1992). Young people began to leave the land - to the Boer War or to pursue a better life in the professions or the city. Much of the land previously selected by smallholders under the Robertson land acts was consolidated into company holdings, including the Scottish Australian Estate and the Australian Estate (Don Maxwell, pastoralist, pers. comm., October 2002).

To some extent these large holdings were broken down again with the provision of soldier-settler blocks after the two world wars. During this period summer grazing licences in the high country were also introduced (Don Maxwell, pastoralist, pers. comm., October 2002).

It was during the later period of limited pastoral leases, after 1920, that many of the huts associated with pastoralism were built as temporary camps for seasonal pastoral workers. (Ashley 1993, part C). During the same period a major report by Byles (1932) provided extensive evidence of the effects of grazing on the high country (Good 1992).

The Snowy Mountains Hydro Electric Scheme commenced in 1949 and the introduction of improved pasture brought more significant changes to the pattern of pastoralism. The Snowy Scheme construction and fire protection work radically and rapidly improved access to the high country. This change was augmented by the introduction of four-wheel drive vehicles, which also provided much greater access to pastoralists and others. The Snowy Mountains Authority also feared erosion caused by grazing and called for an end to grazing as well as undertaking soil conservation works. At the same time, the introduction of superphosphate and other pasture improvement methods made the graziers' home runs more fertile and dependable. These

factors led to some decline in montane seasonal grazing. It was in this changed environment that the phasing out of grazing leases occurred and pastoralism ceased within the park (Don Maxwell, pastoralist, pers. comm., October 2002). By 1958, grazing above 1300 m was phased out, and grazing within the park ceased entirely in 1969 (Mosley 1992), though the park continued to take over pastoral holdings into the 1980s (Don Maxwell, pastoralist, pers. comm., October 2002).

In Kosciuszko, as elsewhere, the coming of pastoralism led to the steady decline of the Aboriginal population (Gardner 1992) and to the loss of rights to their traditional lands, though traditional knowledge and attachment to land has remained strong with the few survivors who were forced away to valley towns and to reserves. It is probable that Aboriginal people, as well as providing essential guiding services, played an important ongoing role in pastoralism in the Alps (Young, Mundy and Mundy, 2000).

Women played an essential role in the permanent establishment and running of pastoral households from earlier settlement, often in very difficult conditions, and had to be knowledgeable and skilful in the running of their properties, often in the absence of their partners. The role played by stock hands, shepherds and managers for absentee landlords was equally important, though their names are not as well known or remembered (Don Maxwell, pastoralist, pers. comm., October 2002). These families and workers early established the image and folklore of the mountains, and a tradition that continues to this day among long-established families who pursue essentially the same way of life. This tradition 'remains a significant part of European cultural tradition, known throughout the nation, and recognised overseas as part of the Australian ethos' (Good 1992).

The industries of pastoralism and the early gold rushes meant that the area that is now Kosciuszko National Park was home to many people, with a string of towns and villages, schools, public meeting places, communication networks and local and regional businesses. The area was a lively and active Australian region. A lot of this tradition still survives, along with the numerous items of cultural significance connected with it.

The economic significance of the alps for pastoralism extended far beyond the alps. In the 19th century travelling stock went from the high country to Port Philip, Warrnambool, Bendigo and Ballarat. During the first decades of the NSW snow leases in the late 19th century, pastoralists from the Western Division were conspicuous on the lists - buying insurance against drought. Sheep men from areas as remote as a Hay, Dubbo and Coonamble used high country snow leases during five months of the year. These extensive interrelationships between the distant Riverina and high pastures continued until mid-century (Mulvaney 1992). These pastoral migrations did not occur every year, depending on the balance between seasonal conditions in the high country and elsewhere (Ted Taylor, Manager, Currango Homestead, pers. comm., October 2002) but they provided an extremely important additional insurance against poor seasons throughout wide areas of Victoria and NSW. To this day, some stock are overlanded on along the northern route within Kosciuszko National Park, from the Adelong to Adaminaby in December, and returning in May.

Horses have played a vital role in the development of Australia, and certainly the development of the pastoral industry in the high country would have been impossible without them. Australia now has the largest population of wild horses in the world. Horses were introduced to the Kosciuszko area in the 1820s and 1830s. They were essential for pastoral life in the high country, and also provided a major method of sightseeing and recreation until the introduction of roads and four-wheel drive vehicles. They became established as wild populations as they escaped from their owners or were released by them, especially in drought times. After the establishment of wild herds in the mountains, further horses were also released to upgrade these herds, which were used as a new source for stock horses, were trapped for skin sales, and were used for the Cooma and Jindabyne rodeos. 'Brumby running' or roping was a well-known form of recreation for riders of the high country from the 1920s on (NPWS 2002b). Horses were already very common by the 1890s, and the wild horses of Kosciuszko were the subject of probably the most famous Australian poem - *The Man from Snowy River*. Through this poem, and many other national and local stories about the pastoral way of life in general and the role of wild horses in particular, the horse and the horse riders of the region have acquired a romantic image and widespread recognition as an important part of the history of the mountains and of Australian folklore more generally. The running of wild horses continued in the park under licence until 1982, when this practice ceased because of concern over environmental damage. However, numbers have continued to increase and one current research estimate is that there are presently 3000 wild horses in the Kosciuszko area, (NPWS 2002b). Some locals say this estimate is far too high (Ted Taylor, Manager, Currango Homestead, pers. comm., October 2002). Recently the NPWS produced a draft plan for the management of wild horses, with the aim of gradually removing them from alpine areas (NPWS, 2002b).

Manifestations of pastoralism in the park - cultural heritage items

The physical items that remain as evidence of the pastoral era include:

- evidence of transhumance, such as huts, mustering yards, fences, stock routes and watering points - for example, Oldfields Hut at Murray Creek and Farm Ridge ruins;
- evidence of settlement, such as homestead complexes, orchards, windbreaks, tracks, dams, shearing sheds, yards, dips and salt licks - for example, Currango;
- introduced animals, such as wild horses, with associated remains, including salt troughs and brumby traps;
- environmental effects of grazing, fire and human settlement that are still evident, such as erosion, vegetation change and introduced species.

Non-tangible items include:

- the decline in Aboriginal population, the destruction of the previous way of life pursued by Aboriginal people, and probable damage to or abandonment of traditional camps, ceremonial and gathering grounds, and other items of Aboriginal cultural heritage;
- place names from the pastoral era - for example, Mount Murray and Mount Ryrie, and Gibson Plains;
- at a local and regional level, a direct emotional connection with the land, the physical remains and the traditions of the pastoral era, maintained by many of the descendants;
- more general evidence of the high country pastoral history in the preservation of bush skills, vernacular hut construction techniques and traditions kept alive in oral history recordings (Hodges 1996), stories, songs, language, dress festivals etc - for example the Bush Poets festival, the work of Ted Winter, and the Kosciuszko Huts Association recordings of stories and traditions;
- the pastoral era in the alpine country as a continuing powerful spur to the artistic imagination in the creation of poetry, literature, art and photography - for example, the paintings of von Guerard and Chevalier; the poetry of Banjo Paterson, Barcroft Boake, Will Ogilvie, David Campbell and Douglas Stewart; and the novels of Miles Franklin and the stories of Elyne Mitchell.

Significance of pastoralism as it is manifest in the park

The pastoral theme, as it is expressed in the Alps in general and Kosciuszko in particular, represents a unique high country variation of a way of life and a period of economic and social development that is of *historic significance at a national level*. Pastoralism played a key role in the development of Australia. Montane pastoralism, and seasonal transhumance with its wide regional connections and economic implications, are more strongly represented in the alps than anywhere else in Australia, and some aspects of this history, being related to the highest land and vegetation complexes in Australia, are unique. The huts, homesteads, transhumance routes and associated remains constitute physical evidence of pastoral life that is only found at these altitudes. Likewise the topography of the region, its severe and unpredictable weather and the exceptional adaptation of the Aboriginal people to these conditions meant that the initial assistance of Aboriginal guides and the use of Aboriginal routes for transhumance played a crucial role within the Alps, of *regional historic significance*.

Within the park very few original squatting stations survive, though many of the surrounding properties have important remains of early pastoralism and an active and continuing tradition. Coolamine was taken up in 1838, and the current homestead built in 1892, and Currango in 1850. Currango is of *national historic importance*: 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 occupancy and the homestead is also important for the integrity of its historic furnishings and fittings (NPWS 1993).

The variety, geographic spread and representativeness of the pastoral huts of Kosciuszko, and their association with traditional pastoral routes and summer grazing settings, make them a unique manifestation of a particular type of grazing. They also represent the way of life of pastoral workers, a theme not well demonstrated elsewhere. The group of huts associated with pastoralism in Kosciuszko is of *national historic and social importance* as part of the complex in the alps generally.

The physical remains, especially the huts and homesteads and their exotic domestic plantings in a unique and beautiful alpine setting, have a very strong appeal to visitors and to locals imbued with the pastoral traditions. The pastoral history, stories and myths and the landscape and remains left behind have been used for more than a century by famous Australian artists to create works of literature and art that are nationally celebrated and that form part of the national psyche. The pastoral theme as expressed in Kosciuszko is of *national aesthetic significance*.

Many of the pastoral complexes have a high degree of authenticity. They preserve evidence of vernacular architecture and design that is a response to the unique environment, various bush skills, and traditional crafts and construction methods, and they are important for the continuation of traditional skills and for research into them.

The pastoral theme as expressed in Australia's highest mountains has strong *social value*, to descendants, to modern bush men and to many other Australians. This is demonstrated in the very active continuation and celebration of its traditions and the respect for its physical remains, including its pastoral landscapes, wild horses and stock routes. The high country's traditions are known, celebrated and passed on locally and regionally, and have an important place in the historical consciousness of Australians, especially in regional Australia, albeit in a somewhat romantic way. *The Man from Snowy River* is known in many households around Australia, both urban and rural. In this sense *the social value of pastoralism is of national importance*.

A recently completed detailed study of the cultural significance of horses in Guy Fawkes National Park provides useful comparative information (Heritage Working Party 2002). No such study of the significance of wild horses in Kosciuszko has been carried out. However we can make the following tentative general statements about their cultural heritage value, although the extent to which this significance resides in the present herds of wild horses is not clear.

- The horses played an important role in the cultural history of the region;
- They have a strong association with some sections of the local communities in the Kosciuszko area and the direct descendants of pastoralists and pastoral workers;

- The stories and traditions associated with them have a strong association with a group of people of importance in the cultural history of Australia - poets, artists and writers in the pastoral tradition;
- The most celebrated wild horses in the Australian pastoral tradition are those associated with Kosciuszko, which have to some extent become a national icon, along with their riders and musterers, as demonstrated in literature, art, film and the 'Man from Snowy River' sequence that opened the 2000 Olympic Games in Sydney.

On the other hand, the damage done and the management problems created by horses in the high country are very considerable and are thought by many people to be in direct conflict with other more significant park values. This is an area in which there is a clear potential for a conflict of cultural and natural values that will require careful management.

The darker side of the pastoral theme has also been played out in the Kosciuszko region. The pastoral history and landscape of the park contributed to the disappearance of the viable and uniquely adapted Aboriginal hunter-gatherer lifestyle of the Alps, the remarkable decline in the Aboriginal population, and the abandonment of many traditional places and items within the park. These happenings and remaining evidence of them constitute important *values of historic and social significance at a regional level*.

The whole Kosciuszko landscape has been affected by this pastoral phase in our national development, and it presents continuing evidence of this era. Significant evidence of the pastoral era on the landscape includes impressive and appealing cultural landscapes, vegetation change, a changed fire regime, the presence of wild horses and other introduced species, and distinctive erosion patterns. Much of this evidence constitutes damage to the pre-European environment left by the Aborigines, but it also has significant historical and scientific value. It should also be noted that current horse riding, especially in the north of Kosciuszko is impacting on Aboriginal sites, both known and unknown.

Mining

Brief description

Most of the information for this summary comes from Lennon (1999) and from LRGM Services (2002).

Pastoralists provided access to the region through a network of tracks and settlements, which provided access to hopeful miners and enabled them to begin prospecting in the foothills of the Alps in the 1850s. In 1859, gold was discovered at Kiandra, precipitating a dramatic major short-term rush. The Kiandra area supported a mainly alluvial goldfield and large settlements of people for a very short period, though mining continued on a much-reduced scale until the 1900s. The snow of the severe winters was a major limiting factor. The Kiandra field was the most economically important in the Alps. At its peak, Kiandra had probably about 10 000 people, 30 hotels, 50 stores, a courthouse, a police station, a school, a church, a post office and a cemetery (LRGM Services 2002:46). A quarter of the miners were Chinese and at one stage they outnumbered the Europeans. There was a separate Chinese camp and separate Chinese shops (Good 1992). Recent excavations at Kiandra have provided interesting and important new evidence about the era (Heffernan and Smith 1996).

Smaller rushes, mainly small-scale individual efforts with very minimal technology, followed in other alpine valleys in the park (Slattery 1998). Later, hydraulic sluicing and dredging was used at New Chum Hill, Kiandra and Gungahlin (Slattery 1998).

Copper, silver and lead were also prospected for and mined in numerous small ventures throughout the park, including at Yarrangobilly, Yarrangobilly Caves and the Coolamine plains. From 1874 to 1914, Lobbs Hole, with the associated township of Ravine, was a comparatively important copper mine that supported a township of 300 people for 50 years (LRGM Services 2002; Boot 2001). Ravine is the site of the ruins of the Washington Hotel, which was begun in 1905. The ruins consist of a substantial pipe wall that, in construction terms, is one of the most interesting buildings in Kosciuszko National Park (Ashley 1993 Part C; Higgins and Scott 1995).

By the 1920s large scale mining had virtually ceased in Kosciuszko, though the gold price rise in the 1930s led to some sporadic small-scale mining efforts (LRGM Services 2002). Most of the towns and infrastructure have decayed or, in the case of Kiandra, been removed.

Mining in Kosciuszko brought a very significant increase in population, government representation and settlement to the alps, and immensely increased the number of official and unofficial access routes into the high country. Small towns developed as part of the rush and became service centres for grazing. Mining influenced patterns of agriculture in the area by increasing access and because of the demand for food and for farm allotments. Timber harvesting and saw milling began intensively in this period. Regional centres benefited from the population increase and augmented government activity. Government regarded mining as a major regional development engine, actively encouraged this development and increased its own presence, level of services and regulation (LRGM Services 2002).

The landscape, vegetation and fauna in some areas underwent dramatic and long-term changes as a result of the short period of intense activity (LRGM Services 2002). The multicultural flavour and the predominance of men in the population, for which the region became famous during the building of the Snowy Mountains Hydro Electric Scheme, was probably presaged during the mining boom. Certainly Chinese men were very well represented in the alpine gold rushes. Many Chinese people stayed on and local family names such as Yen, Yan and Booshang reflect this ancestry (Don Maxwell, pastoralist, pers. comm., October 2002).

Undoubtedly also, the non-Aboriginal population suffered further loss of cultural continuity and traditional access to some areas as the population increased dramatically and the landscape was in some cases drastically altered.

Manifestations of mining in the park - cultural heritage items

Tangible items

- Remains of the mining fields associated with the Kiandra area, including surface diggings, ground and hydraulic sluice workings, adits, shafts, mullock heaps, water races and dams, abandoned machinery and equipment, relic machinery sites such as Lorna Doone, Broken Cart, Blue Creek and Horseshoe mines (LRGM Services 2002), dredge tailings, and vegetation and topography changes.
- Remains of the associated settlements, including some buildings such as the courthouse and the chimneys of a store operated by a George Yan, a local businessman of Chinese origin (Ashley et al. 1991), and Matthews Cottage (Ashley 1993 Part C); and the sites of houses, huts, public buildings, street layouts, exotic plantings and associated artefacts.
- A range of numerous other localities scattered throughout the park that exhibit some of these features, including Grey Mare, Bogong diggings, Tin Mine and Elaine.
- Extant huts in Kosciuszko that are specifically related to the mining era or contain key evidence of it; isolated huts associated with mine workings include Tin Mine, Grey Mare, Pig Gully (ruin) and Four Mile (Ashley et al. 1991).
- The impressive cultural landscapes of some areas in the park that all these features combine to create, including the water races and workings constructed around the hills at Kiandra by the Chinese, and Lobbs Hole on the Yarrangobilly River (Ashley et al. 1991).
- The extended system of routes, tracks and roads, both official and unofficial, that resulted from mining activities.
- A more intensive and official pattern of agriculture and urban settlement in the area, brought about by mining.

Non-tangible items

- Place names associated with the mining era.
- Traditions, stories and skills arising from the mining era, and the historical, emotional and social links of descendants with the era and its manifestations.

Significance of mining as it is manifest in the park

The significance of this theme in the Alps is summed up as follows:

- first bringing significant numbers of Europeans into the alpine environment;
- bringing colonial government action into the Alps;
- stimulating regional service industries such as agriculture and saw milling and developing regional economies;
- overlaying an infrastructure on the alps, particularly towns, roads and tracks (LRGM Services 2002).

The mining rushes of the 1850s and 1860s, of which the sites in Kosciuszko, especially Kiandra, were a part, represent a theme of *national historic importance*, encompassing as they do a major development in Australia history that had crucial social and economic consequences. Mining had a major impact on the Alps, not so much because of the actual area mined, but because of the intensiveness of the operations. Mining brought large numbers of people into the alps at a time when they were sparsely settled or unexplored, and provided considerable impetus to infrastructure development (roads etc), regional supply and service industries (farming, saw milling etc) and the development of fledgling towns of the region. The complex of sites taken as a whole has the capacity to vividly illustrate the drama of the mining rushes of the 19th century and the intensity of individual effort and expectations. Together they provide a *regional expression of a theme of national importance*.

Another key element of the significance of the mining in Kosciuszko relates to the adaptations that were required in Australian mining practice to cope with an environment that was unique in Australia in terms of altitude and severe winters, with abundant snow and lack of access. This complex of sites forms an interesting contrast with the adaptations necessary to allow mining in the arid zone, where lack of water, timber and extreme heat created a need for other unique adaptations.

In particular, the remains of the Kiandra goldfield, being the most extensive and successful Australian goldfield at this altitude, demonstrates *national historic importance*. It is the best example of a goldfield operating in a context and environment that is unique to Australia –in comparison with Glen Wills in Victoria. This national significance is more readily interpreted in the Kiandra landscape rather than at individual sites. It is outstanding and unparalleled in having a range of cultural features associated with mining within an alpine natural environment. (LRGM Services 2002).

At the level of *state significance*, Kiandra also has significant historical themes that relate to the importance attached to the discovery by NSW, and the hopes and infrastructure invested in the field as a potential solution to the state's economic woes and as successful competition to the Victorian goldfields (LRGM Services 2002).

Other places within the park have been assessed as being of *state significance* because they are outstanding examples of different types of mining of different minerals - gold, copper, silver-lead. The sites thus have considerable historical and scientific value because of their research potential in a number of fields. They have representatives of a large range of structures and

artefacts. They are outstanding examples of living and working conditions in a remote and rugged Australian environment. The sites at Grey Mare and Tin Mine, at New Chum Hill, south Bloomfield and the Empress mine within the Kiandra historic area, fall into this category. Tin Mine is notable for its extant huts, with their wealth of associations and representative construction techniques (LRGM Services 2002).

The majority of mining sites within Kosciuszko, being of a fairly low yield, on alluvial deposits, have been mined for a short period with very simple methods and using machinery only on a very small scale. They demonstrate basic technologies that are commonly represented elsewhere, and they exhibit low key and not easily interpreted evidence of mining and settlement that are duplicated throughout the alps. They are of *regional or local significance* (LRGM Services 2002).

Logging, timber product extraction and silviculture

Brief description

The alpine sawmills of Kosciuszko operated in a subalpine region, not an alpine one, although in winter the mills were sometimes blanketed by snowfalls. The mills were small family businesses (Broadheads from the 1860s to 1905 then the Kellys until World War II) and the timber cut was limited to Alpine Ash (*Eucalyptus gigantea*, now *E. delegatensis*) of a diameter that the water and steam-driven saws of the day could handle. They were always known as the 'alpine mills' because nearly all of them operated along Alpine Creek in the eastern section of the national park (Turner 1992).

Broadheads started with sawpits at Kalkite. They subsequently had a waterwheel-driven mill on Alpine Creek in 1885; this was replaced by a steam-driven one in the 1890s. It supplied timber for Kiandra Anglican church, Cooma courthouse, police station and police residence as well as numerous local huts. From around 1900 there were mills at Swamp Creek, Alpine Hill, Providence and, after World War II, at old and new Adaminaby (Turner 1992).

Following the establishment of the Forest Commission of NSW in 1916, assessments of the forests were conducted. In the area later gazetted as Alpine Creek State Forest No 579 (of about 7300 acres), it was noted that about 40% of the forest was Mountain Ash belts that had been cut and that there was then (1917) dense regeneration. The new commission was charged with establishing softwood plantations, as 75% of softwood was being imported (Grant 1988). Softwoods were planted at Jounama State Forest No 594 near Kiandra from 1924 to 1935. The state forest was included in Kosciuszko State Park in 1944 but the plantation of 545 ha of unusual species - *Pinus ponderosa* and *P. larico* - remained (Grant 1988). This plantation is of cultural significance as an example of early softwood silviculture and acclimatisation trials for a sustainable timber industry in Australia.

Forests to the north, like Mount Tantangara, were logged, and the lower slopes on the northwest were logged from the 1870s for mills in Laurel Hill, Batlow and Tumut (Grant 1988). The Snowy Mountains Region Cultural Heritage Management Strategy (NPWS 2001a) also mentions McGregor's sawmill site and sawpits at Managle, but gives no detail.

After World War II, the mills employed Europeans who were used to working with softwoods - for example, George Vodicka, a Czechoslovakian migrant, who had to adapt to new timbers and different sawing techniques. Much timber was needed in the construction of the Snowy Mountains Hydro Electric Scheme; many migrants and Aboriginals were also probably employed in the forests.

Manifestations of logging, timber product extraction and silviculture in the park - cultural heritage items

Tangible items

The following sites and items are included in this category:

- The boilers from the Providence mill (1936–46) still remain on site, plus the water race, hut remains and steam engine;
- Broadhead's Kalkite mill site (1870s) has the remains of the dam race, permanent habitation in the form of two buildings, and the graves of two children (Kosciuszko Huts Association 2002);
- Broadhead's Alpine Creek mill site (1884–1901) has a cleared gravel area and deep gully;
- West/Kelly's Alpine Hill mill site (1918–36) has a cleared gravel area;
- Broadhead's upper Alpine Creek mill site (1901–05) has a cleared open spot beside the creek off the Alpine Creek fire trail;
- The site of the Bolara alpine sawmill at Adaminaby (1958–70s) is marked by willows and pine trees;
- Jounama plantation has exotic pines planted from 1924 to 1937;
- Local buildings made from timber from these mills, as well as other artefacts like early snow skis, furniture etc.

The structural composition of forests in what was the Alpine Creek State Forest is also important. Here, Mountain Ash were selectively removed between the 1870s and 1901 and again between the 1930s and the 1940s.

Intangible items

- Place names associated with logging, like Sawpit Creek at the Jindabyne road entrance to the park;
- Local stories associated with working in the forests and mills.

Significance of logging, timber product extraction and silviculture as manifest in the park

Logging and timber processing is a theme of national importance in developing regional economies and the logging of Alpine and Mountain Ash forests required understanding of the snowy climate and regeneration requirements for sustaining the industry. Timber production was of regional importance in supplying building materials for the miners at the Kiandra gold rush and then for huts and later chalet buildings in the park.

The Alpine Creek sawmill sites are of state significance as they represent a range of techniques to process Mountain Ash timber from waterwheel through to steam and diesel power.

Water harvesting

Brief description

The following information, except where otherwise cited, is summarised from the Register of the National Estate Data Base entry for the Snowy Mountains Scheme (Pearson and Marshall 2001).

The water from the catchments of Kosciuszko has always been crucial to the maintenance of life and has dictated the way Aborigines, pastoralists and miners operated. For instance, a characteristic of the Kiandra diggings was the extensive dams and water races (Good 1992). On a larger scale, the characteristics of the yield from the alpine catchments make it particularly valuable in an arid continent. The rates of yield are high, the yearly variability is low by Australian standards, and the system provides a high percentage of the water available in south-eastern Australia for agricultural, industrial and domestic use (Slattery 1998). Schemes to harness this wealth and distribute it to the best advantage of agriculture and industry had been proposed since the 1860s and were augmented later by ideas for electricity generation.

During the immediate post World War II period, a coalition of circumstances and an era of national planning came together to create the Snowy Mountains Hydro-electric Scheme. A number of factors were significant: postwar reconstruction, concern for providing increased employment, more efficient agriculture and industry development, a need for population growth, and the availability of unlimited labour from Europe. Together these factors made the development of a water harvesting and energy creation scheme on a grand scale a practical and visionary prospect. The Snowy Mountains Hydro - Electric Scheme was aimed at moving 'unproductive' water west of the divide to provide an increased and secure water source for agriculture while at the same time generating cheap hydroelectricity for eastern Australia.

In 1949 the Commonwealth government passed special legislation to enable the inauguration of the Scheme and created the Snowy Mountains Hydro-electric Authority to develop it. Much of the infrastructure was to be built in Kosciuszko State Park, which had been gazetted in 1944. There were two basic parts of the Scheme - reflecting the traditional state rivalry between NSW and Victoria - the Snowy-Tumut section and the Snowy-Murray section. When the Scheme was completed in 1974, it consisted of 16 large dams; 80 kilometres of aqueduct pipelines; 13 major tunnels covering more than 140 kilometres in all; 7 power stations, two of them deep underground; 8 switching stations and control centres; 3 towns to service the Scheme; and sites of about 120 work camps and former construction towns. (Pearson and Marshall 2001). It also had numerous stream gauges (Kosciuszko Huts Association 2002).

Additionally, temporary shelters and huts associated with the Scheme sprang up all over the park. Most were for shelter, but some were associated with stream gauging (Kosciuszko Huts Association 2002).

The Scheme was by far the largest national endeavour undertaken in Australia. It succeeded in providing cheap and reliable electricity and water for much of south-eastern Australia and in stimulating employment, agriculture and manufacturing.

Approximately 100,000 people worked on the Scheme over 25 years from 1949 to 1974, including some 70,000 from Europe. Many of these Europeans were displaced by the Second World War and directly recruited by the Snowy Mountains Hydro-electric Authority. The project brought new management and engineering techniques to Australia, encouraged growth of the Australian construction industry, and was the foundation of modern Australian multiculturalism. The tradition of endeavour and toughness in adverse conditions, already part of the ethos of the Alps, was continued and boosted by the Scheme. Workers were well paid but worked for long hours in risky conditions; 121 died. The Scheme had a deep and lasting impact on those who worked on it and is appropriately remembered by them and their descendants. Socially, the impact of many foreign male workers had a big effect on the life of the regional towns and their social mores.

Research and survey work for the Scheme provided immensely detailed data on the topography, geomorphology and geology of Kosciuszko. The massive investment of capital to utilise the water resources went hand in hand with a realisation of the value and recognition of the severe erosion problems that threatened the catchments. Consequently the Snowy Mountains Hydro-electric Authority undertook extensive soil conservation work within the park, partly to rectify damage caused by the Scheme itself. The authority also financed and supported conservation work conducted by the NSW Soil Conservation Service on the Main Range, and influenced the cessation of high country grazing. On the other hand, consideration of the possible adverse environmental effects of the Scheme gradually increased. In the later stages of the Scheme, conservationists successfully lobbied, for environmental and scenic reasons, against the proposed construction of the Spencers Creek Dam (Good 1992). Today the dramatically low flows in upper reaches of rivers such as the Snowy have been recognised as a major environmental problem and environmental flows have now re-commenced.

Many relatively good quality access routes were opened up, probably allowing further invasion of pest species and certainly providing for the development of recreation facilities, especially the ski fields that had been popularised by the European workers.

There were significant losses for many as a result of the Scheme. The loss of high country grazing leases and the way of life they represented was deeply felt. Many people were removed from their homes and towns, as at Old Adaminaby and Old Jindabyne, and relocated to enable the Scheme to go ahead; neither authorities nor the general community had any real comprehension of the social and emotional cost that is still felt strongly among the elderly in the area (Read 1996).

Manifestations of water harvesting in the park - cultural heritage items

Tangible items

- Much of the infrastructure of the Snowy Mountains Hydro-electric Scheme, including dams, pipelines, tunnels, power stations, roads, work campsites and towns, lies within the park;
- Many of the huts used for shelter today are buildings originally associated with the Scheme;
- The landscape of the park has been very significantly altered by the engineering works of the Scheme;
- Major public roads and maintenance tracks and roads bisect sections of the park;
- Major soil conservation works have been undertaken;
- Some introduced species have resulted from soil conservation work and from exotic plantings associated with the Scheme.

Intangible items

- Place names have been given to new features developed with the construction of the Scheme;
- Many who worked on the Scheme have a direct and continuing emotional and social connection with it;
- There are sorrowful and powerful cultural memories of loss and mourning among some of the older local community whose lives were disrupted by the Scheme;
- The Scheme and its history remain an important and visible part of the story of the Kosciuszko region, a national icon, and of ongoing interest to visitors and the general public, who hold it in high regard as a nation-building exercise.

Significance of water harvesting as it is manifest in the park

Water harvesting is an extremely important historical theme of *national historic and social significance* in Kosciuszko National Park. The Snowy Mountains Hydro-electric Scheme, a large part of which is within the park, is the largest engineering project ever undertaken in Australia. It has national significance as an engineering feat, as a symbol of Australian achievement and as a basis for Australia's multicultural society.

The following elements together give the Scheme as it is now manifested in Kosciuszko National Park *national historic, social, and scientific significance*:

- The Scheme represents an outstanding engineering success and achievement and is the largest and most complex example of such a scheme in Australia;
- The scale and nature of many of the Scheme's engineering and design components are rare, and it exhibits technical and design achievement of the highest order;
- Many of the components have the potential to provide more information about the experience and achievement of the Scheme's workers, designers and contactors;
- The Scheme adds to the complex layers of human occupation of an important and significant area, juxtaposing major engineering objects on a distinctive mountain landscape and exerting a profound aesthetic and environmental effect on the landscape;
- The Scheme is closely associated with a number of prominent Australians;
- The Scheme is significant in the history of post World War II migration and can be considered as the basis for Australia's multicultural society;
- The Scheme revolutionised post-war working conditions and industrial relations and introduced modern concepts of management and large-scale project development in Australia;
- The Scheme continued the already established alpine tradition of work by men in unusual and harsh conditions, and caused the evolution of work attitudes and management systems to cope with this;
- The Scheme is strongly symbolic for a large part of the Australian community and is held in high regard by them; it is very publicly and continually associated with Kosciuszko National Park and attracts many visitors in its own right;
- The large community of former Snowy workers and their families hold the Scheme in special regard; at a local and regional level the Scheme evokes sorrowful and powerful cultural memories of loss and mourning among some of the older community whose lives were disrupted by it;

- The Scheme was influential in phasing out alpine grazing and led to a program of soil erosion control, but also caused environmental damage within the park;
- The development of the area, the existence of the Scheme and the improvement in number and quality of access roads led to an increase in recreation opportunities and development;
- Snowy Hydro Limited is providing for the rehabilitation and restoration of many former Scheme work sites within Kosciuszko National Park.

Scientific research, conservation and park management

Brief description

The material for this theme comes mainly from Griffiths and Robin (1994), Macdonald and Haiblen (2001), Lennon (1999) and Slattery (1998).

Scientific research

The history and achievement of alpine science are part of the cultural heritage of Kosciuszko even though historians of Australia have frequently neglected science in their narratives. Mulvaney (1992) points out that the anti-intellectualism in the Australian psyche has failed to acknowledge adequately the extraordinary feats of endurance and imagination in the scientific explorations of the early researchers such as Howitt and von Mueller. These people are not as nationally recognised as is the ethos encapsulated in *The Man from Snowy River*. The history of alpine science in this century is also not popularly recognised, but it is has informed our fundamental principles of land management in the park and the Alps more generally (Griffiths and Robin 1994).

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, conducted 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 (Griffiths and Robin 1994).

The 19th century botanical investigations of von Mueller and Maiden were of international interest, as were the geological studies of Edgeworth David, the anthropological work of Howitt and the meteorological studies of Clement Wragge (Lennon 1999). During this period also, extensive fieldwork established state and territory boundaries at the park edges and features such as the Willis customs house were established (Slattery 1998; Argue 2000).

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 NSW undertook their work. Costin's work on the Snowy catchment and the Fawcett studies on the Hume and Kiewa catchments became benchmarks of Australian alpine ecology (Griffiths and Robin 1994). The first attempts at reclamation and revegetation were undertaken in 1959 in the Mount Carruthers to Mount Kosciuszko area and have proved successful. This work in itself left significant physical remains in the high country, especially in the form of stone channelling to rectify erosion (Good 1992). On the Main Range, geological features associated with the controversial glaciation debate about the extent of glaciation are important, along with sites associated with the dating of Australian glacial events. Monitoring sites, where measurements have been made of stone movement on Mount Twynam, karst processes at Cooleman Plain and Yarrangobilly Caves, and tree line dynamics in Thredbo Valley, are also sites of outstanding cultural significance associated with scientific research (Lennon 1999).

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 at sites along the lower Snowy River has provided valuable information about the pre-contact vegetation structure and dynamics of this area in relation to the high country (Pulsford et al. 1993).

Recent research by Aboriginal workers is convincingly documenting the continuity of Aboriginal culture in the park since the first European settlement. The formation of the Australian Alps Liaison Committee has stimulated a raft of excellent quality research into the cultural heritage of the Australian Alps, including the Kosciuszko area, and has enriched our knowledge of the effects of the human presence in the park and the significant fabric and traditions created by this presence.

In the 20th century, the emphasis of scientific work has been on water catchment and engineering studies related to the Snowy Mountains Hydro Electric Scheme, and on ecological studies largely 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 (Lennon 1999).

Conservation and park management

By the last decades of the 19th century, scientists such as Maiden, Stirling and Helms were warning of the destruction to the high country caused by grazing, feral animals and the practice of regular burning to promote 'green pick' (Good 1992). The rapidly

accumulating research results on the natural environment of the Alps provided a firm foundation for the ecological studies of the 20th century.

Improved access by car and train and the growth of recreation in the bush as a promoted healthy pastime brought many people to the Alps in the early 20th century, raising the awareness of the need for conservation measures in this fragile environment (Gare 1992; Slattery 1998). By the 1930s, the bushwalking clubs were organised and focused enough to provide a good base for active lobbying for a government conservation agenda. In 1935 the first proposal for a Snowy–Indi Primitive Area was generated (Gare 1992). Meanwhile, a dedicated young Commonwealth forester, Baldur Byles, documented the widespread erosion of the high country. His report provoked the establishment of the NSW Soil Erosion Committee and, in 1938, the NSW Soil Conservation Service (Good 1992; Slattery 1998).

During the 1940s, Kosciusko State Park was established in response to the growing conservation and recreation lobby; grazing was controlled to some extent, but it still continued and in fact provided income for the park trust (Gare 1992). Leases granted from this period onwards had a requirement for rabbit control, since rabbits were recognised as one of the major threats to the high country (Don Maxwell, pastoralist, pers. comm., October 2002). An alliance of the Soil Conservation Service and the Snowy Mountains Hydro-Electric Authority, with a remarkable coalition of individuals, each with a slightly different agenda, combined forces to generally protect the high country from grazing, with the initial limitation of grazing occurring in the 1940s (Slattery 1998). Meanwhile the Snowy Mountains Hydro-electric Authority and the Soil Conservation Service had put in a massive effort in soil conservation works. Their initial methods were somewhat heavy-handed and included the use of exotic plantings, but these practices gradually improved (Good 1992).

A growing realisation of the impact of the Snowy Scheme itself on the alpine environment led to a variation in the Scheme. Good (1992) argued that this was an important early example of the community and scientists succeeding in an environmental argument. It also led to the creation of the first primitive area in the Spencers Creek area in 1963. The area was open to skiers and walkers, but protected from previously planned massive Snowy Scheme engineering works (Slattery 1998).

In 1965, the NPWS was created and Kosciusko National Park was declared in 1967. Management for nature conservation became a priority. After another debate, the 135-year practice of high country grazing ceased and a 25-year restoration process was put in place. The creation of alpine parks in Victoria in the 1980s immensely strengthened the size and viability of the alpine conservation reserve system (Slattery 1998).

As the largest, and probably highest-profile, park in Australia at the time of its establishment and early development, Kosciuszko has also played an important role in the evolution and development of the profession of park manager, and of the discipline of park management generally.

Concentration on nature conservation has had its costs. Certainly the removal of stock from the high country had been well demonstrated to be an ecological necessity, but there was perhaps initially insufficient recognition of the loss of a way of life and treasured traditions, and of a breaking of strong emotional ties, all of which resulted from the cessation of grazing in the high country.

In the same way early zeal to restore a 'pristine' environment initially ignored the long Aboriginal heritage of the park, and also led to the destruction or damaging neglect of valuable historical heritage fabric, most notoriously at Kiandra. This in turn has led to protest, lobbying and research by heritage conservationists, and a gradual revision of policies and procedures to protect cultural heritage. The challenge that remains however is the integration of the management of the natural and cultural values of Kosciuszko.

Another key development in conservation has been the recognition of the conservation value of the alps as a unit - hence the development of the Australian Alps Liaison Committee, which has made some progress in the standardising of identification and management policies for natural and cultural values in the alpine parks of NSW, Victoria and the Australian Capital Territory (ACT).

Manifestations of scientific research, conservation and park management in the park - cultural heritage items

Tangible items

- Experimental and monitoring sites of historic importance in the history of research in the park - examples include Carruthers and Twynam ridges transects, Dainers Gap and Hotel Kosciusko sites, Main Range glacial sites (Guthrie saddle, the David moraine, Perisher Creek exposure, 'Railway Embankment' moraine), Costin's carbon-14 sites, Clement Wragge's weather observatory on Kosciuszko summit, and the earliest (1950s) plots of the Soil Conservation Service of NSW at Long Plain;
- Experimental and monitoring sites of current importance for ongoing research and monitoring in the park (Lennon 1999):
 - Kiandra plots for the work of John Leigh, Dane Wimbush et al;
 - rock movement monitoring sites on Mount Twynam;
 - the Cooleman Plain karst area and Yarrangobilly Caves monitoring sites;
 - Slatyer's Thredbo Valley tree line monitoring sites;
 - Pulsford's sites in the lower Snowy.

- Examples of historic early nature conservation work - for example soil conservation and restoration works on Mount Twynam and Mount Carruthers;
- Numerous examples of conservation management, infrastructure and activity throughout the park;
- Destruction of or damage to parts of the park's cultural heritage fabric with the aim of restoring the natural environment;
- Border markers delineating the boundaries of NSW, Victoria and the ACT and associated cadastral information.

Intangible items

- The strong tradition of conservation, activism and dedication that created the park and seeks to maintain its values;
- Loss of a way of life and treasured traditions, and a breaking of strong emotional ties that resulted from the cessation of grazing in the high country;

The contribution of alpine research in Australia to the creation of an enriched global perspective on alpine research generally should also be acknowledged.

Significance of scientific research, conservation and park management as manifest in the park

The theme of science and conservation in Kosciuszko National Park is of international and national significance.

The nineteenth-century botanical investigations of von Mueller and Maiden were of international historic and scientific interest, as were the geological studies of Edgeworth David, the anthropological work of Howitt and the meteorological studies of Clement Wragge.

Establishment of state and territory borders at the edges of the park was a significant element in the administrative management of the continent. The border markers and associated remains are likely to have national heritage significance (Argue 2000).

The ecological studies of the Australian Alps are of international significance for historic and scientific reasons. The Australian Alps are significantly different from other alpine areas throughout the world because of their 'soil mountains' nature, their complex and interesting vegetation patterns, and the pattern of tree lines and ecotones between different ecosystems. This makes the intense and thorough research work on these ecosystems of international significance for historical and scientific reasons.

Sites of particular significance associated with scientific research include those listed earlier as tangible cultural heritage items related to scientific research, conservation and park management, as well as those mentioned in the description of scientific research near the start of this theme's section. The level, range and importance of this suite of research have national significance.

The story of research in the park is associated with a range of internationally and nationally famous scientists, many of whom carried out their seminal work within the park and the adjoining alpine areas.

The conservation of an area that juxtaposed outstanding natural areas, opportunities for much-needed water harvesting and power generation, and economically important pastoral activity posed a challenge for the community and conservationists. The conservation effort that created Kosciuszko National Park was of historic importance in the development of the conservation movement at a national level, and subsequent development as a major national park has had an important national influence on the development of park management policies and procedures in Australia.

Recreation

Brief description

The information for this theme is derived mainly from Gare (1992), Slattery (1998), Lennon (1999) and Freeman (1998).

Recreation has been described as the pleasurable and constructive use of leisure time or as a refreshment of the strength and spirit after toil (Gare 1992). Kosciuszko National Park offers such a range of combined recreation opportunities that it has attracted a wide range of people from earliest times. It provides recreation opportunities unique in Australia, containing as it does alpine scenery, the snow fields, Australia's highest mountains and the romance of the history of the high country. Recreation has taken many forms - bushwalking, sightseeing, rock climbing, horse riding, canoeing, skiing, caving, camping, fishing, photography, sketching, painting, aesthetic appreciation and inspiration. Some people take resort-style holidays in the park. People have sought exercise, excitement, peace, solitude, beauty, health, spiritual refreshment, social life, family gatherings and relationship therapy in the area. The recreation patterns of the park and the heritage left by this use are rich, complex and sometimes in conflict with the park's other values.

Aboriginal people from the coast, the highlands and the inland used the resources of the Alps, including the Kosciuszko area, for the important and exciting Bogong moth festival that integrated summer recreation and feasting with ceremonies and with material and social exchange (Gare 1992; Young 2000).

The graziers who were permanent residents of the area for more than 100 years likewise used it not just for livelihood but also for rest and recreation. Photographs held by the Maxwell family show that horse riding has a long tradition in the area and was the principal means of sightseeing for pastoralists and their guests as well as for early tourists until relatively recently (Don Maxwell, pastoralist, pers. comm., October 2002).

At the time of the gold rush, Kiandra was the birthplace of Australian skiing, which was first noted as a recreational pursuit in 1861. By the 1870s, the Kiandra Snow Shoe Club had become the Kiandra Pioneer Ski Club, the oldest in the world. There is significant reference to this club, complete with artefacts in the Holmenkollen Skimuseum in Oslo, Norway. The club still exists in Perisher valley having transferred from Kiandra in the late 1950s. By late in the century the first wave of urban recreational users had begun regular mountains visits. These early visitors included Banjo Paterson and Charles Kerry, the photographer who recorded early skiing at Kiandra and led the first winter ascent of Kosciuszko in 1897. By 1898, recreation had become an important aspect of the public value in Kosciuszko. Also in 1898, the first complaints of damage to the high country by grazing were made by Helms, who complained that it interfered with 'the artist and tourist who seek the picturesque' (Gare 1992).

By this time the bicycle, railways and motorcars, along with increasing prosperity, had increased mobility and the popularity of tourism. Active pursuits in pristine mountain country with good air and a bracing climate, away from the unhealthy and disease-ridden cities, were seen as important for health and actively encouraged by government and the medical profession. This period saw active government encouragement of recreation in Kosciuszko, with the development of Yarrangobilly Caves and the construction of the Kosciusko Road, Yarrangobilly Caves House, accommodation at the Creel for fishermen and the Hotel Kosciusko. Associated walking tracks were also constructed, and people increasingly visited the mountains to walk, fish, ride horses and bikes, skate on the artificial lake or play tennis and golf on facilities provided at the Hotel Kosciusko. The new government-owned and run facilities were modern, luxurious and well appointed, the equivalent of today's top-class resorts (Gare 1992).

The focus of skiing shifted from Kiandra to Kosciuszko with the building of Hotel Kosciusko and it took on an elite dimension. The Kosciusko Alpine Club began in the Kosciusko Hotel in 1909 at Diggers Creek (Dainer's Gap). This club has continued at Charlotte Pass and at the Alpenhof Lodge in Perisher Valley and highlights the history of competitive skiing in the 1920s and 30s by people such as Tom and Eleyne Mitchell and Ken Breakspeare. The National Cross Country trophies are kept at the KAC Alpenhof Lodge and the National Mens 15K Cross Country Trophy dates back to 1919 and is regarded as one of the oldest trophies in world skiing (Melvey 2003).

The chalet at Charlotte Pass was erected in 1930 and rebuilt after fire in 1939, due in part to pressure by the Ski Club of Australia. It gave much greater access to the Main Range (Freeman 1998, vol 2). Arduous ski trips taking several days were organised, and with them a series of huts were provided for overnight accommodation and shelter in bad weather. Tin Hut was specifically built for the first winter crossing from Kiandra to Kosciuszko in 1927 (Kosciusko Huts Association 2002). Seaman's Memorial Hut was built in 1929 and the Alpine Hut in 1939 (Gare 1992). However, accommodation (250 beds) at the ski fields was very limited by today's standards (Freeman 1998 vol 2), and mass downhill skiing did not commence until the 1960s, when chairlifts, increased resort development and better road access to the ski fields increased their popularity and enabled day and weekend visits (Good 1992).

Bushwalking in the Alps also became popular during the early 20th century. Myles Dunphy founded the Mountain Trails Club in 1914; by 1931 the club was operating actively in Kosciuszko, and beginning to lobby for a primitive area to provide an unsullied experience for those seeking peace, solitude, nature and an aesthetic experience in the Alps (Slattery 1998). World War II temporarily disrupted recreation pursuits such as skiing, but saw the creation of Kosciusko State Park to be available for riding, biking, camping and snow sports, with free access for all. The Kosciusko State Park Trust was specifically empowered to carry out recreational development, including roads, paths, walking tracks, ski trails and the erection of hostels (Gare 1992). The Snowy Mountains Hydro-electric Scheme popularised skiing further through its workers, developed its extensive road network to and through the park and raised awareness of the Alps through its publicity. Its massive engineering works became new focal points of interest and education for tourists (Freeman 1998 vol 2).

The Hotel Kosciusko burned down in 1951, but the influx of visitors seeking winter sports continued to increase, encouraged by the activities of the trust, and there was pressure to allow private and commercial development in the snowfields. In 1952 the minister was empowered to grant leases for hotels, accommodation houses and other visitor facilities. The trust continued to run Kiandra Chalet Hotel, Yarrangobilly, the Rules Point Guest House and the Creel, and developed the Cooina Motel at Wilsons Valley. Recognising the need for further accommodation, the trust encouraged the construction of non-commercial lodges built by ski clubs and community groups. Within a few years, commercial enterprises were also allowed, and the period of the ski resorts had begun. This activity has developed into a huge commercial enterprise that has had a profound effect on the environment, culture, visitor numbers and infrastructure of the park (Freeman 1998 vol 2). There are some 150 clubs and lodges that have a unique culture developed over the last half century. The club lodge, formed as a business cooperative is a concept unique to this part of the world and has allowed the development of skiing accommodation as an affordable option for families and friends of modest means and has now served up to four generations (Melvey 2003).

The popularity of downhill skiing and the consequent commercial success and power of the resorts have caused some strains between park managers and those in the industry. Issues such as the number of beds to be made available within the park have been a long-running matter of debate and have put Kosciuszko on the state political agenda on a number of occasions. The

natural values of the park have been utilised for over a century as an increasingly important commercial asset by the tourism industry; and the industry in turn generates employment, wealth and local development. The resorts include Perisher Blue Ski Resort, Thredbo Alpine Village, Charlotte Pass Village and Selwyn Snowfields. A more recent development within the park, which was very controversial at the time and which aimed to ease problems with winter traffic congestion and pollution, has been the development of the ski tube that runs from Bullock Flat to the new resort of Blue Cow. This development was innovative and a major feature in terms of design engineering and construction. Its successful completion contributed to the decision to build the Sydney Harbour tunnel and proved an important practice run for this larger and more public development.

In their genesis, planning, mix of non-profit and profit elements, architecture, layout and ambience, the resorts reflect the different trends in postwar architecture, planning and landscape design, as well as the special design and environmental needs for building in the high country, the development of the ski industry since the 1950s, and the park authorities' responses to this development. The industry has brought many people from different nationalities to the Alps, and has created its own subculture, social mores, nomenclature and legends, unique in Australia, but known throughout the country.

It should also be noted that skiing and snowsports are more than recreation –they are also important and Olympic sports and Australia has produced a surprising number of Olympians in winter sports, including Perisher's Zali Stegall (Olympic Bronze medallist and World Slalom Champion and current athletes such as Jenny Owens. NSW school children come to the Jindabyne Winter Academy specifically for snowsports. The cultural values of sport need more study.

The demands of recreation also led to the introduction of a range of species into the park, including game fish, deer, and horses for sightseeing and riding. This in turn has led to the creation of facilities such as fishing huts (including the stone fishing huts in the Geehi area), stables, riding tracks etc.

As the downhill ski industry developed, so did the popularity of, and support for, bushwalking, cross-country skiing, camping and the general appreciation of nature and alpine scenery. Summer visits to Kosciuszko became increasingly popular, with appreciation of nature and wild flowers and ascent of Mount Kosciuszko high on the agenda. A network of huts, many adapted from earlier uses, provide shelter and facilitate cross-country skiing and bushwalking; they have become an important feature of the park. The bushwalking clubs of the 1930s developed into today's active conservation movement, which provides a strong lobby group that seeks a limit to development in the park and the restriction of recreational use and access that could be harmful to the environment and interfere with others' enjoyment. In turn, these demands are seen as elitist and unrealistic by some.

A strong element of the recreation theme in the park has been one of incipient and sometimes outright conflict between the demands of visitors, and the tourism industry more generally, and the need to conserve the- extraordinary natural and cultural values that attract visitors to the park. There is a history of tension and compromise between the requirement to conserve these assets and to provide access to them and enjoyment of them, especially when such access and enjoyment require the development of significant infrastructure.

Another theme inevitably associated with recreation in Kosciuszko is injury and loss of life. Many people have lost their lives through exposure over the years, ski injuries are frequent, and one of the most dramatic disasters of modern Australia - the Thredbo tragedy- - took place in the Kosciuszko snow fields. This event has now in itself become a significant part of the history of the park. As a response to the remote and sometimes dangerous conditions, the park has developed a series of innovative rescue procedures and methods, and there are also physical memorials in the park, such as Seaman's Hut, which commemorate these events.

Manifestations of recreation in the park - cultural heritage items

Evidence of the recreation theme in Kosciuszko is contained in the following items:

Tangible items

- The inspirational landscapes of Kosciuszko that are a key attraction of the park and that have become familiar to people through their depiction in paintings, poetry or song;
- The network of historic walking tracks and ski trails, including the walk to the summit and the historic and well-known overland ski and walking routes used for more than a century;
- The lookouts and views associated with iconic alpine scenery;
- The associated access routes, including the ski tube;
- Yarrangobilly Caves complex, including caves adapted for visitors, Caves House, the thermal pool and associated landscaping and bushwalking trails;
- Government-built historic accommodation and resort complexes, including the chalet at Charlotte Pass, the site of the Hotel Kosciuszko and the remains and sites of enterprises that are no longer operating;
- The ski resorts within the park, with their design history, layout, buildings, infrastructure, services, settings and associated ski fields;
- The accumulated park infrastructure, designed to welcome visitors and enhance their stay and to educate, assist, protect, rescue and manage them in the fragile and sometimes dangerous environment of the alps;

- The extensive network of huts throughout the park - some dating from the pastoral or mining era or originally part of the Snowy Scheme infrastructure, some developed specifically for recreation - that are a significant feature of the recreation opportunities of the park;
- The memorials to those who lost their lives in Kosciuszko in the pursuit of recreation and adventure;
- The significant changes to the natural environment of the park brought about by the demands of recreation and the gradual accumulation of in-park settlement, infrastructure, access routes, resource demands etc.

Intangible items

- The general, national appreciation and knowledge of the park and its features, as a special and precious place, where for over a century many Australians have had unique and memorable experiences;
- The subculture, mores and legends of the ski fields and resorts;
- The traditions and memories of cross-country skiers, walkers, and other recreational users;
- The occasional tension and conflict between park visitors with different aims, and between the needs of conservation, recreation and tourism.

Significance of the theme as it is manifest in the park

Some of the walking tracks and viewpoints have *national significance* because of their *historic, aesthetic, inspirational and social* qualities.

Mount Kosciuszko itself in its alpine setting as Australia's highest mountain has *national significance* as a symbol, a source of inspiration, and a unique recreational attraction for national and international visitors.

The Kiandra area, apart from its mining history, has *national significance* as the place where downhill skiing was first practised as a recreation in Australia. It also has a claim to *international significance* as the Kiandra Ski Club established in 1861 is the oldest in the world.

Yarrangobilly Caves complex and Caves House and associated developments have *state and regional historic and aesthetic significance* as part of a complex of cave sites developed for tourism in the context of an important national social movement. The architecture of Caves House is also a significant intact example of early twentieth-century resort style development (Argue 2000). The remains of the other government-built accommodation within the park is of *state significance*, reflecting an important historic state government initiative and associated typical architecture and infrastructure, and representing an important social movement.

The extensive network of huts in the park, used for shelter, safety and accommodation, are part of a network of *national significance* and are in themselves of *state historic and social significance* as a response to the needs of recreation in a challenging and often dangerous environment, and as reflecting the historical development and adaptation of a unique alpine network for this recreation.

The ski fields and ski resorts have elements of *state and regional significance* for historic, aesthetic and social reasons because of:

- the important social movement they reflect and represent;
- elements of architecture and layout, which reflect important developments in the history of postwar design, and its adaptation to the high country;
- their influence on visitor numbers, patterns and behaviour and the consequent management and infrastructure of the park.

Freeman (1998) lists Rock Creek, Telemark and Edelweiss at Perisher Valley resort, and the chalet at Charlotte Pass resort as being of *state significance*, and the Perisher Valley resort and Smiggin Holes resort as a whole as being of *regional significance* for the cultural landscape values implicit in their development plans. He lists 27 other buildings and elements as being of *regional significance* and 34 as being of *local significance* (Freeman 1998 vol 1). Many of the names in the resorts commemorate the pioneers in the Australian ski industry, such as Sponar's and Anton's T-bars in Thredbo and Zali's run at Perisher Blue, and are important means of preserving the cultural heritage of the park.

The ski tube and its associated engineering work have *national historic and scientific significance* as an innovative and excellent example of design, engineering and construction in a difficult and sensitive environment. An earlier example of innovative engineering work associated with the sport of skiing was the construction of the world's longest chairlift running from the Alpine Way to Charlotte Pass.

The range of memorials to disasters that caused loss of human life in the park is also significant. These include Seaman's Hut and the memorials to the loss of the *Southern Cloud* and to the Thredbo disaster.

The Kosciuszko huts

Most of this information is from Ashley (1993).

The Macquarie dictionary defines a 'hut' as 'a simple small house [such] as a beach hut, bushwalker's hut ... accommodation for employees on sheep or cattle stations'. Ashley (1993 part A), in his study of huts in the NPWS estate, defines huts as having three key elements - they are small, they are used as human dwellings associated with different purposes, and this purpose is often seasonal or temporary. They are often built of local material, in vernacular style, and in remote locations as single buildings. They are essentially buildings pared down to an absolute minimum, either because they are for temporary use or because they are all that it is possible to construct at the time. The reason for constructing huts is generally one of the following:

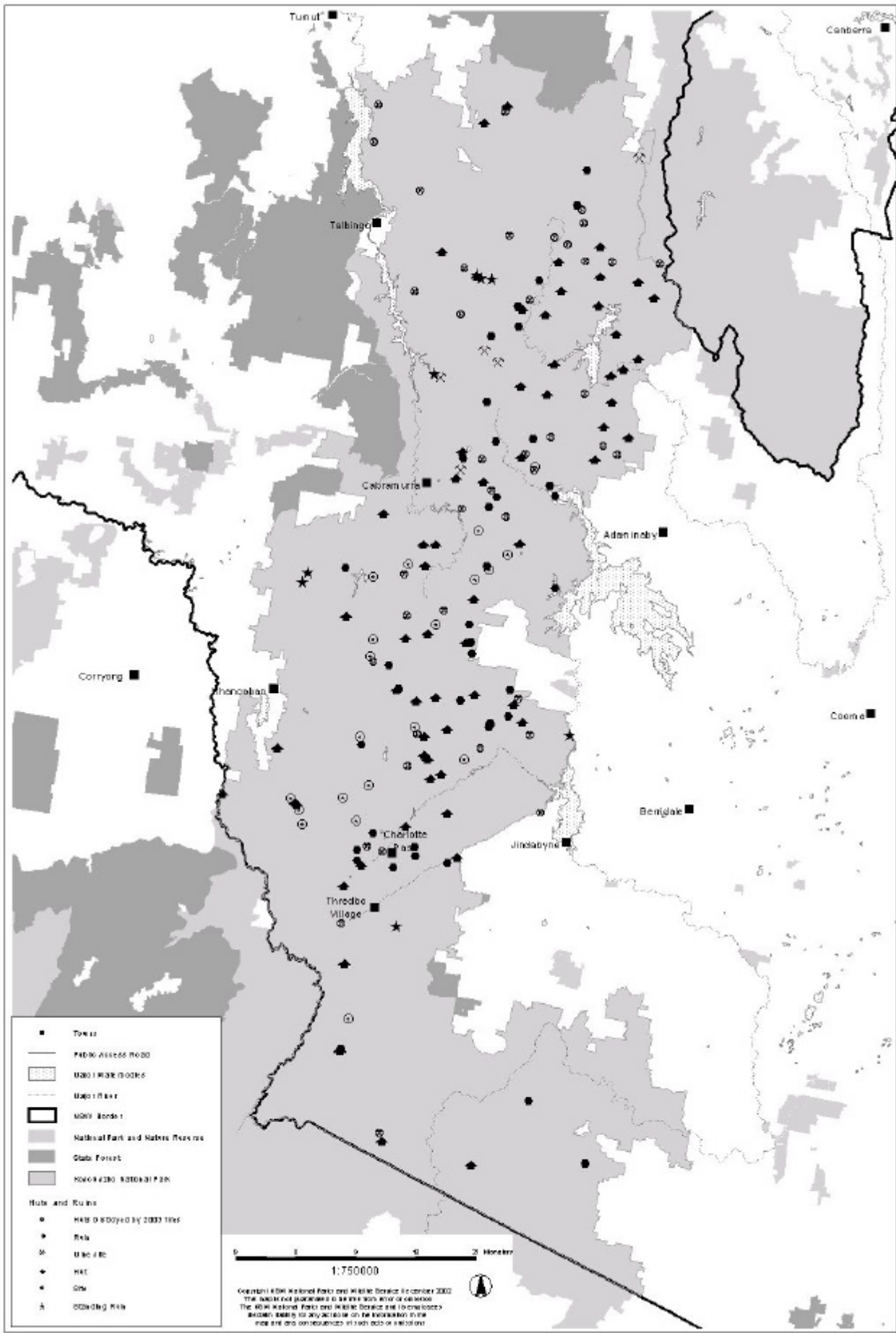
- They are for temporary accommodation in the locations associated with the activity they are designed to facilitate;
- They are built as affordable dwellings in times of hardship;
- They are built as first-stage dwellings, intended to be replaced at a later date as resources allow.

Ashley (1993 part C) describes Kosciuszko as having 90 intact huts, or 61% of the total of 130, which includes intact and ruined huts. Altogether there are 239 huts, ruined huts and known hut sites. Some changes have occurred since 1993 and the Kosciuszko Huts Association usually says there are around 100 intact huts in Kosciuszko today (Kosciuszko Huts Association 2002). The geographic location of these huts is illustrated in Map 13.1. This is perhaps a little more than half of the original number of huts in the area that now comprises Kosciuszko National Park. (By way of contrast the Alpine National Park in Victoria contained 111 huts in 1996.) The Kosciuszko huts together make up the biggest complex of different types of huts, congregated in an area of comparative size, in NSW, and possibly in Australia, and represent a rich range of uses. Their uses relate to the history of transient land use in the park - pastoral, mining, Snowy Mountains Hydro Electric Scheme construction, and shelter for skiers, walkers, park staff and researchers. The huts are important historical markers of different, often overlapping, land use but do not necessarily reflect a balance of these phases, since most extant huts date from the 1920s to the 1950s. Many of the huts are recent, with 12 associated with pastoral use after 1944 and 19 associated with the Snowy Mountains Hydro Electric Scheme (Ashley 1993 part C2).

A characteristic of the huts is their continual adaptation - from grazing to mining, from Snowy Mountains Hydro Electric Scheme construction to grazing, or from any of these to shelter for skiers, walkers and researchers.

About 60% of the huts have primary association with pastoralism, the oldest being actually established as homesteads on pastoral runs (Cooimbil, Old Currango, Currango). Most of the extant pastoral huts date from the 1920s, when the seven-year maximum grazing leases were introduced for areas above 13 000 m (Ashley 1993 part C). Pastoral huts show a clear concentration in the central and eastern sections of the park, and can be associated with the known movement of sheep and cattle. A substantial majority of these are associated with cold air drainage, which prevented the growth of trees and subsequently created grassland vegetation. These natural grasslands were used for sheep, while cattle were more often grazed on alpine vegetation. The huts are positioned on the edge of the trees above these natural grasslands, providing increased shelter and access to firewood (Ashley 1993 part C).

Map 13.1



Mining huts that remain were later also used by stockmen. The oldest mining huts are the Four Mile mine goldminers hut built near Kiandra in 1937 and the Tin Mines complex near Mount Pilot, 1936–1937 (Ashley, 1993 part C: 4). Most of the extant huts have now been used for recreation shelters for longer than the purpose for which they were originally designed. In 1935, 53 huts were listed by the Australian and New Zealand Ski Year Book as being available and useful shelter. Some were purpose-built for recreation - for instance, the Tin Hut built in 1925 by the ski club and the tourism bureau. In the 1940s the Geehi huts and Bullocks Hut were built for fishing and recreation. One hut associated with tragedy is Seaman's Hut, built by the NSW government with money from Seaman's parents to commemorate his death in a blizzard in 1928 (Ashley 1993 part C).

Nineteen of the huts are primarily associated with the Snowy Mountains Hydro-electric Scheme construction work. They were used by survey teams and hydrologists planning construction work, and some are still used by the authority (Ashley 1993 part C). They add an extra and unique layer to the Kosciuszko huts picture.

Most of the huts show some adaptation to the harsh environment and to the limited seasonal time available for their construction. Some have vertical access for occasions when snow prevented any other. Several huts have double sets of entry doors to keep out the cold and snow. Almost a third of the huts are built of material found nearby - horizontal and vertical slabs of timber, logs and stones, but in the more modern huts weatherboard and corrugated iron predominate, with some weatherboard being hand-split or coming from local bush mills. There are 12 remaining slab huts in the park, which comprise almost all the NPWS collection of such huts. Many huts have internal linings of flattened kerosene tins, tar paper, maltoid or pasted newspaper. There is a notable group of five river-stone fishing huts near Swampy Plain and Geehi (Ashley 1993 part C).

It appears that the huts used for pastoralism, mining and the building of the Snowy Mountains Hydro Electric Scheme represented a largely masculine domain, but the history of women in the pioneering record is often lost or neglected, and the role of women here, as elsewhere, needs more research. Certainly the huts reflect the rugged and sometimes hazardous lifestyle of their occupants. Another characteristic of the huts is that they are associated with pastoral workers, often small-time miners, the unemployed and rabbiters from the Depression period, and the migrant workers of the Snowy Scheme - a class of users that is often not well represented in our heritage database. Their modest and makeshift nature conveys a unique psychological and social meaning.

Associated with the huts are traditions, legends, stories and particular notable people and families. They do not date just from the pastoral and mining era but also include Snowy Mountains Hydro Electric Scheme staff, bushwalkers, skiers and park staff. They are the focus of many of the European story lines that criss-cross the park and that are in many cases built on ancient Aboriginal pathways to the high country.

The recent bushfires which burnt almost 70% of Kosciuszko National Park also destroyed or seriously damaged 19 historic huts, namely:

- | | | |
|--------------------------|----------------|----------------------|
| • Boltions | • Delaneys | • Grey Hill Café |
| • Boltions Hill | • Patons | • Happy Jack 3 and 4 |
| • Boobee | • Stockwhip | • Linesmans 2 |
| • Orange (Diane) | • Dr Forbes | • Old Geehi (YHA) |
| • Brooks | • Geehi | • O'Keefes, and |
| • Burrungubuggee Shelter | • Pretty Plain | • Opera House. |

The Service has initiated a process with key stakeholders to determine these huts individual and collective significance in order to determine an appropriate management response.

The Kosciuszko huts probably comprise the biggest complex of different types of huts, designed for the widest range of purposes, in a comparative area anywhere in Australia. Individual huts have considerable archaeological, social, historical or aesthetic significance, but the huts, ruins and hut sites have *national historic and social significance* as a complex. Within this general field we can identify a number of particular values:

- The complex has historic value, representing the major extant evidence for the major non-Aboriginal land use phases of the park. Many of the huts, by their historical association, provide a major element of the evidence for types of work that are no longer practised or that are a unique project such as the Snowy Mountains Hydro Electric Scheme;
- The complex has social value as representing a way of life that has iconic status in Australia and that is associated with important social movements and persons. The majority represent the work and lives of pastoral workers, small-time prospectors and migrant workers. Because many continue to be used today for shelter and recreation, they constitute an important link between today's park users and those of the past, and for modern users they provide a tangible and important trigger to the historical imagination;
- The Kosciuszko Huts Association, the history of that association's recognition of the value of the huts and the remarkable voluntary work to conserve and repair them and to maintain their use give a strong indication of their current social value to many park users. On the other hand there is some evidence that, at the time of preparation of the present Kosciuszko National Park Plan of Management, some park users and managers saw the huts in a negative light, as impacting on the environment;

- The huts between them represent a wide range of materials, design, construction, maintenance and adaptation techniques, and they constitute an important architectural, archaeological and historical research resource for this reason;
- Many of the huts, especially the slab huts, because of their vernacular construction and setting, have an element of simple beauty, which blends well with the dramatic and austere alpine landscape and environment and gives them aesthetic value;
- The conservation and present curation of the huts represents an important milestone in the history of natural and cultural conservation in NSW - a gradual development by the NPWS of an understanding of the nature and value of non-Aboriginal cultural heritage and of the necessity of involving and working with its traditional owners and the community generally to conserve it.

Dependence

The reserves and parks of the alpine region conserve a significant variety of ecosystems and terrains. They constitute the only alpine environment in the world's flattest and lowest continent. The natural characteristics of the Alps have in turn led to a unique and complex cultural history, as outlined above. Within this general context, Kosciuszko itself contains a range of unique cultural items. The area of Kosciuszko National Park constitutes the largest and most varied protected natural and cultural landscape in the Alps. Therefore the cultural heritage values of the area, many of which have national importance, are highly dependent, as a group, on Kosciuszko National Park for their conservation.

Within this generally significant cultural landscape setting, some cultural heritage items within Kosciuszko National Park are of particular significance, being a key or unique manifestation of a theme of national importance. These include:

- the historical associations and contemporary traditions of the montane pastoral theme in Australia history, tradition, ethos and creative expression;
- Currango homestead complex, the oldest high country pastoral station;
- the Kiandra cultural landscape left by the occurrence of high country mining;
- the landscape, engineering works and unique historical associations of the Snowy Mountains Hydro Electric Scheme;
- the collection of huts that exist throughout the park and are not found anywhere else at the same level of historical complexity in terms of the values they express relating to the layering of history, varied use, architectural style and diversity, evidence of environmental adaptation and social significance;
- Mount Kosciuszko itself, as Australia's highest mountain, with a unique historical, social and aesthetic significance;
- the evidence of scientific research, conservation and early park management endeavours;
- the first recorded skiing in Australia at Kiandra, the birthplace of winter snow sports.

Condition and trend in condition

Issues relating to data and methodology

The methodology proposed for use in assessing the natural environment is not appropriate for assessing the cultural environment. In Australia, the only relevant condition assessment methods for cultural heritage are those that have been designed for the *Australia State of the Environment Report 2001* (Lennon et al. 2001). Of most relevance is an assessment of the physical condition of historic heritage places (Pearson et al. 2001). This was a survey of a 12% sample of historic heritage places listed on the Register of the National Estate, which assessed physical condition and determined whether it was good, average or poor, based on a number of defined criteria. Such a sample survey would provide a basic condition assessment of the tangible heritage items of Kosciuszko National Park.

However no overall survey of condition has been carried out for the cultural heritage of the Australian Alps or Kosciuszko National Park. Nor is there any regional framework into which to fit this suite of items. Many types of sites, especially archaeological sites, have not been systematically identified. Many intangible items, especially relating to the traditions and social history of the park, have likewise not been recognised and documented. There have been assessments of certain major items such as huts, past and present resorts, homestead complexes and the Kiandra cultural landscape. However the surveys have, by and large, been on a needs basis and offer little comparative data. Until recently, a consistent methodology was not used. Therefore work to date cannot effectively be used to give an overall assessment of condition. The regional cultural heritage management strategies (NPWS 2001ab) do not assess condition overall, and their priorities for conservation work are based on a different set of criteria. In these circumstances it is not possible to adequately or accurately assess the general condition of the heritage items within the park.

The closest we can get to a condition survey is to look at the data on the Kosciuszko huts. Ashley (1993 part C) gives records of 90 intact huts, 40 ruined huts and 109 hut sites, making a total of 239. The Kosciuszko Huts Association (2002) says that there are around 100 intact huts in Kosciuszko today. It is not clear from the literature whether the total figure (239) is the result of systematic survey and represents all huts previously built in the park, but it is assumed that most of them or their sites have been located. The spread between huts that are intact, are in ruins or are no longer in existence is an indication of condition. More

than half the huts have been ruined or destroyed. Less than half are intact. About 30 huts have been lost in the past 30 years, some deliberately destroyed but most lost to fire (Kosciusko Huts Association 2002). Because cultural heritage is of its nature subject to decay and change, it is not appropriate to simply characterise this figure as poor condition. On the other hand these figures do point out the fragility and vulnerability of the cultural items in the park, and the necessity for their active management – undertaken in some cases since 1971 when the Kosciusko Huts Association was formed. Since 1993 both loss of huts and their more active management have been in evidence. Harris's Hut and Broken Dam Hut have been lost to fire. Some, such as Gooandra, have been restored. Pressures on the huts are similar to pressures on many other cultural heritage items in the park – they were built for temporary purposes, they are located in remote areas of the park, and their history and cultural importance are not well known (Kosciusko Huts Association 2002).

Current condition

Taking the problems outlined above into account, the most we can do is to give a sketchy and somewhat subjective assessment of the condition of some of the items.

Places that are of high public visibility and current use (including active interpretation) and that have been subject of specific conservation work tend to be in relatively good condition. These include historic homesteads; huts in current use; resort buildings in current use; the infrastructure of the Snowy Mountains Hydro Electric Scheme currently in use; and historic walking tracks and recreation facilities that are in use. Some other major items, such as Yarrangobilly Caves House, while not in current use, are stabilised and have current priority for restoration.

The past history of park management has affected the condition of some of its cultural values and has led to their diminution. The previous lack of understanding or sympathy among park managers for cultural heritage items, augmented by a lack of resources, and in some cases their misguided destruction or neglect, has led to the diminution of some values. For example, the 1974 plan of management made certain provisions for the removal of some evidence of previous European occupation of the park, including a number of alpine huts and fence lines. In some cases, management practices aimed at nature conservation have been in conflict with the conservation of cultural values. As a result, the condition of a number of cultural heritage items is poor or the items no longer exist. These include buildings, ruins and landscape features.

Read (1996) has described a similar lack of sympathy and understanding towards the items of our heritage that relate to the pastoral era, especially the loss of legitimacy and acknowledgment suffered by those whose way of life this was and is. In turn, this means that the heritage values of Kosciuszko's pastoral era have suffered in the past through lack of recognition, inclusion and interpretation. People feel unduly blamed for damage that has occurred to the park as a result of pastoralism, and some feel that this damage has been exaggerated or wrongly attributed (Ted Taylor, Manager, Currango Homestead, pers. comm., October 2002). The hostility of some members of the community to the establishment and management of the park has compounded these problems, causing the loss or diminution of some social aspects of the park's cultural heritage.

Heritage places do not renew themselves; their natural tendency is towards change or decay, especially if they constitute evidence of the past rather than being in current use. Their condition is not naturally stable, although an aim of good management is to make them as stable as possible. Some cultural landscapes are being lost or diminished as revegetation, control of introduced species, and the general diminution of signs of human activity occur. Many minor elements of these landscapes, such as mine workings, small structures, ruins and archaeological sites, are in average to poor condition and trend towards significant decline in condition. Overall knowledge about and appreciation of the cultural heritage items of Kosciuszko in the general community is probably only average to poor.

Some trends in condition

The condition of cultural heritage values in the park is improving in some respects. Cultural heritage management staff within the organisation at all levels have contributed greatly to improving the level of knowledge and of management of the park's cultural heritage during the period of the present plan. The newly drafted regional strategies (NPWS 2001ab) are an indication of the recognition of cultural heritage as a legitimate value, and of priority being given to its management. The strategies have identified needs for specific sites and identified priorities for site management. The strategies identify a number of encouraging trends in cultural heritage management in the regions, including:

- a growth in interest in cultural tourism;
- the development of an integrated (natural and cultural) landscape approach to management;
- the increasing prevalence of proactive surveys for sites ahead of proposed development;
- the development of Perisher Visitor Centre in a way that will emphasise historical and Aboriginal heritage;
- the trend to consider huts in their landscape setting.

The Australian Alps Liaison Committee's research work is intended primarily to focus on values common to all the alpine parks. However this work has in fact provided a great deal of basic information about the cultural values of Kosciuszko National Park and consequent recommendations relating to management, especially within the themes of mining, science and cultural landscape management; though the outcomes have perhaps been underused in the Kosciuszko management regime to date.

Overall, the trend is improving because of these factors, but this trend is from a very low threshold, and is in need of proactive consolidation and augmentation. For example, in 1994–96 park staff were part of teams developing cultural landscape management guidelines that aimed to further identify, assess the significance of and manage the specific cultural landscapes of the alpine parks (Lennon and Mathews 1996). Specific guidelines were given for managing exotic and Aboriginal vegetation, animals, visitor impacts, access, level of facilities, interpretation, traditional and continuing uses and community groups, but these guidelines have yet to be systematically implemented. For many sites, a lack of active management such as restoration, stabilisation or regular monitoring and corrective action, and lack of attention at a similar level to non-tangible items, will lead to their inevitable decline.

Pressures

The following significant pressures can be identified:

- climatic factors, which can place considerable stress on some heritage items and can make access and maintenance difficult;
- the lack of knowledge of the existence or location of many items and hence a danger of inadvertent damage or destruction;
- a lack of resources and a relatively low priority for the conservation of cultural heritage items in some instances, leading to decay or destruction of cultural heritage items;
- an emphasis on the management of tangible heritage items, sometimes at the expense of the intangible;
- potential conflict between management for cultural heritage values and for natural heritage values - for example, wilderness and exotic weed eradication and wildfire and fire management;
- failure of the wilderness legislation to recognise the significance of cultural heritage in the landscape problems and consequent management problems;
- lack of on-park expertise to deal with cultural heritage issues generally, and an unwillingness to engage in cultural heritage issues because they are considered to be of lesser conservation value or too complicated and specialised;
- lack of recognition of the values of the cultural heritage asset as an integrated and complex system and landscape which needs managing as such;
- fire and fire management as a significant threat to unique cultural heritage places and landscapes;
- the impact of an increasing number of visitors to cultural heritage places and landscapes;
- the local community's feelings of isolation and some hostility because of past disregard of its heritage and the removal of cultural heritage features of significance to it.

Knowledge gaps

Knowledge gaps have generally been identified by the work of the Australian Alps Liaison Committee; a research strategy to fill these gaps has been designed and is gradually being implemented (Argue 2000). In her analysis of state heritage themes in the park, Argue identifies a number of significant gaps. The integration of this data into park databases and management policies and procedures is still needed in many cases. As we have shown, data and information such as specific guidelines are often available, but staff are unaware of or unwilling to use these.

It is important that the existing data bases be kept up to date. Additional information on new items, existing items and information progressively collected on the condition of items should be included in the NPWS data base specifically in the HHIMS.

In some areas basic data are still needed. Elements such as the traditional Aboriginal lifestyle and its continuity, the traditional pastoral lifestyle and its contribution to the Australian ethos and its manifestation today, the history and contribution of women, and the role of horses in the history of the park have not received the systematic and community-based analysis they deserve. In particular, basic research on the role of Aboriginal people and women in the history and development of the Alps is needed. In addition, the historical processes have determined the evolution of the cultural heritage, especially in its landscape setting; a knowledge of fire histories, and which areas were burnt and when, is crucial for understanding the rate of regeneration or the length of time for restoration of some landscape elements.

Opportunities

The cultural heritage management strategies for the Snowy Mountains region and the south-western slopes region for 2001–06 (NPWS 2001ab) between them offer brief summaries of the heritage resource of Kosciuszko National Park. There is a potential problem in this management split and it is clear that the park's plan needs to be based on an integrated, Kosciuszko-wide strategy for cultural heritage management.

The recommendations of the regional strategies should form part of this Kosciuszko-wide strategy, but they need to be augmented. The focus of the priority actions in the regional strategies is on the stabilisation or restoration of the physical fabric. Specific programs and action need to be devised to deal with issues such as social history, cultural landscape management, historical archives and community involvement.

A key management aim in the Kosciuszko plan of management should be the conservation of all the significant natural and cultural values that the park contains. In considering strategies to achieve this, it is useful to keep three issues in mind:

- The conservation of all values as an outcome of the new plan will require a higher priority being given to cultural heritage values than in the previous plan;
- The conservation of values cannot be achieved without a strong partnership relationship with those who have custodianship of such values. Such partnerships need to be forged with appropriate people with traditional knowledge and feelings of responsibility in the local European community as well as in the Aboriginal community. The resorts see themselves as an excellent future resource for cultural tourism including providing the public with a better knowledge of science, mining, pastoralism and Aboriginal heritage as well as the resort experience –and Thredbo already provides a self-guided heritage walk around the Village;
- It is useful to remember that there is a wide range of ways to conserve and celebrate heritage. Physical conservation is one way, but in many cases - especially with intangible items or with evidence of the past, such as the Kosciuszko horses - acknowledgment, commemoration, community celebration and recording or alternative use may be the most appropriate way of conserving elements of our past while looking after other values. A cultural heritage community outreach program could be augmented by park management engaging with the local historical societies and providing a central repository for local historical material such as letters, books, reports, copies of oral history transcripts etc that would provide a useful local resource. In turn the societies might care to assist in managing such a resource.

It is also important to acknowledge the distinction between community association and links with heritage as illustrated in past practices, and the present situation, in which these land use practices may not be an appropriate method of conserving all the cultural and natural values of the park.

Desired outcomes

The following outcomes have been adapted from NPWS (2001ab), with some additions by the authors:

- Acknowledgment by management of the outstanding national cultural significance of the park and its heritage items and a focus on proactive, long-term conservation and management outcomes for cultural heritage of the park;
- A cultural heritage management strategy for the park as a whole that integrates the relevant sections of the relevant NPWS regional cultural heritage management strategies for 2001–06 (NPWS 2001ab) and appropriately augments these documents;
- Documentation and assessment of all significant heritage items within the park;
- No further loss of heritage items by accidental or deliberate damage;
- The protection of cultural heritage items from the effects of inappropriate or excessive tourism;
- Recognition of the value of intangible items and their enhancement by documentation, research, publication and active, cooperative management;
- More research to redress the male bias of the historical data into women's roles in the mountain environment as stockriders, scientists, wives of Snowy Scheme workers, and in establishing the health and well being of communities;
- Achievement of a strong heritage management partnership with communities surrounding the park or with traditional links to its history, through the development of dynamic and socially responsive policies and possibly joint archives of social history material;
- Active management of a selected range of representative and/or unique cultural heritage places and landscapes as outlined in the regional strategies (NPWS 2001ab);
- Stabilisation of the condition of all items assessed as being of regional, state or national significance;
- The development of appropriate re-use options for selected cultural heritage items as a means of long-term conservation;
- Management of cultural heritage items within the park:
 - within a historical thematic framework that interlinks places/landscapes as part of local, regional and state networks;
 - as dynamic places with opportunities for cultural tourism, recreation, education, commercial activities, re-use and community involvement as appropriate;
 - in a way that integrates the park's natural and cultural heritage and that resolves potential conflict between these values;
- The commitment of sufficient resources to achieve these ends.

Monitoring

The regional strategies suggest a range of measures for monitoring their success. These measures are useful and should be implemented, but they often relate to planning and recording achievements. For the purposes of the park's plan it will be important to establish some baseline data and from this to measure actual conservation results on a regular basis. The following range of measures could be considered:

- a survey of the present condition of a sample of different types of significant heritage items;
- a survey of the attitudes of the local community to cultural heritage within the park, and of their involvement and sense of ownership;
- a survey of attitudes and knowledge levels of the general public about cultural heritage items in the park, and the cultural heritage of the park generally;
- the repetition of such surveys at regular intervals to measure change.