Part Three

Chapter 18
summary of significance

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Introduction

When people describe the reason that a place is important to them they usually draw from many attributes and their descriptions are not specific. To most people, the significance of a place is a combination of many values — natural heritage, cultural heritage and other values derived from these qualities. However, management needs explicit information about each value and its significance so that important values can be conserved, and management effort can be targeted and prioritised.

The values of Kosciuszko National Park are of two types: the core values of natural and cultural heritage, and the derived values (e.g. social, recreational, tourism and economic) that depend on these core values.

The primary task of the Independent Scientific Committee (ISC) has been to analyse the specific values of the park and to state why they are important. In doing so, the ISC acknowledged and endorsed previous statements of the park's values such as the Schedule of Significant Features of the existing Plan of Management.

Some values are geographically based and can be assigned to a particular area or place (e.g. the Lower Snowy River) or group of places (e.g. karst areas) in the park; others are less place-specific, and may refer to a value held by the whole park but not to a specific place within it (e.g. recreation opportunities, the experience of remoteness).

There are overlapping or layered values in any part of the Kosciuszko National Park and most places have elements of natural as well as cultural values. Many values are interrelated or interdependent (e.g. soils and flora), and some are composites of other values (e.g. ecosystem services). Multiple values may build richness in some places, but they may also create conflict because a decision to conserve one value may contribute to degradation of another.

Thus, defining the values of such a large area as the park is not simple. As far as possible, the ISC members used consistent methodology to define and describe the different types of value. When this approach was not possible, they used methods for description and analysis that were appropriate to their discipline.

A large amount of detailed knowledge was available for some values (e.g. a recent cultural heritage study formed the basis of the cultural heritage analysis). In other cases, there are still many knowledge gaps.

In the individual topic chapters, the ISC addresses each of the value areas requested by the New South Wales National Parks and Wildlife Service (NSW NPWS) in the ISC's Terms of Reference, The scope of the values and issues addressed is not exhaustive; for example, the ISC identified small-scale issues such as the multiplicity of microclimates in the park, and large-scale issues such as climate change as deserving future review as individual topics. This statement is a contemporary view and may change with time, as knowledge and perception of the park's values changes. In the topic chapters, the individual authors have summarised the values in hierarchical order of significance, and ranked their attributes as far as possible, from international to local or park scale. This does not mean that values of local significance are not important.

"The park's importance is the sum of all the values of the park. All of these values are worthy of being conserved."

Statement of significance of Kosciuszko National Park's values

The following statement of significance is in six parts, which were agreed by the ISC to be appropriate for the values examined:

- international recognition;
- internationally significant values of the park;
- significance of the park in its regional setting;
- significance of the park as a protected area;
- summary of significance related to the individual values and themes of the park; and
- expanded significance of the individual values and themes of the park. (This is in the topic chapters and is not repeated in this chapter).

The chapters on the individual values of the park provide detailed analysis.

1 International recognition

Two international environmental listings apply to Kosciuszko National Park: the whole park was listed in 1977 as a biosphere reserve under the United Nations Educational, Scientific and Cultural Organization (UNESCO) Man and the Biosphere Program, and part of the park (Blue Lake and its surrounding area) is a wetland of international importance listed under the Ramsar Convention.

The Australian Alps are recognised by the World Conservation Monitoring Centre (WCMC) as one of the 167 world centres of biodiversity; at 11%, endemism in the Australian Alps is as high or higher than other mountain areas around the world.

2 Internationally significant values of the park

In addition to the international recognition through the two international environmental listings described above, the park has numerous other values of international significance; most are related to its natural heritage. They include:

- the suite of karst areas, particularly Cooleman and Yarrangobilly Karst;
- soils that are of outstanding scientific value as examples of some of the great soil groups, both individually (the alpine humus soils) and in association with each other;
- fossil soils and remnants of fossil soils of high scientific value and practical importance;
- alpine areas that are of international significance as a prime global example of mid-latitude alps with attributes that include vegetation that includes at least 21 endemic species and 33 species that are rare in a total of some 204 species of flowering plants;
- subalpine ecosystems that provide habitat for a number of rare animal species (e.g. mountain pygmy-possum in podocarpus heath and corroboree frog in sphagnum bogs);
- probably the most outstanding development of subalpine treeless flats and valleys in the world (internationally significant ecophysiological work has been undertaken on the tree lines);
- populations of thirteen vertebrate taxa that are listed as threatened or near threatened by the World Conservation Union (IUCN), including the endangered mountain pygmy-possum, which has the longest life span of all known small terrestrial mammals;
- natural fire regimes, which are partly a function of climate, that have created subalpine, montane and lowland landscapes of international significance covered with a catena of eucalypts;
- a cultural heritage theme of science and conservation, with numerous places and associations with outstanding international ecological research and
- a claim to international significance by the Kiandra Ski Club (established 1861) which is the oldest in the world.

3 Significance of the park in its regional setting

Kosciuszko National Park forms the central segment of the Australian Alps bioregion that supports all the alpine endemic species found on the Australian mainland. The park forms about half of the area of the Australian Alps national parks system and is less fragmented than the dissected landforms of the alpine regions of Victoria. Because Kosciuszko National Park is large and contiguous with other natural areas, full life cycles and gene flow can continue in a regional context.

The park provides ecosystem services that are nationally valuable, including provision of clean water to southeastern Australia through the quality of the park's soils and catchment, and reduction in risk of climate change through large tracts of the park's forest sequestering carbon.

4 Significance of the park as a protected area

Very few large natural protected areas such as Kosciuszko National Park remain in temperate Australia, where the natural dynamics of ecological processes can still occur without significant human intervention, and where there are active policies to protect naturalness. Such areas are decreasing in number and area over time, and so are becoming more precious. Many of the park's other values depend on maintenance of the naturalness of the park setting; Kosciuszko National Park is a place where there can be prevention of the accumulating harmful effects of new and extended development such as light, air, water, and noise pollution.

Kosciuszko National Park conserves, in its landforms, a largely intact intrinsic record of past change of soils and vegetation, and has a scientific record that has monitored change over five or more decades. Because of these features, the park can play a major international and national role in monitoring and measuring ecological changes, particularly those associated with climate change. If climate change occurs, the large size of the park, its range of ecosystems, and its links with other natural areas will give species and communities the chance to adapt to this new situation.

Kosciuszko National Park is a place where all people can find solitude and the opportunity for spiritual experience, and a sense of remoteness in the natural setting. In the park, people can maximise the value that they gain from their park experiences without harming the attributes of the park.

The park conserves and demonstrates the setting for the sequence of its past human life and habitation, and the park's cultural heritage significance lies in physical evidence as well as in stories and traditions associated with the park. Many cultural heritage themes have extant evidence in the park.

5 Significance related to the individual values and themes of the park

Geology

The park's geological significance includes features such as the Ordovician to Lower Devonian rocks that form part of the Lachlan Fold Belt; the dissection resulting from the Tertiary uplift, which has produced spectacular scenery (notably the mile-high drop from the summits of the Main Range to the Geehi Valley); evidence of the great climatic changes in the Pleistocene that produced glacial features (e.g. cirques, terminal and lateral moraines, lakes, erratics and ice-scratched surfaces) and extensive periglacial features and evidence; and Holocene features of the park (sediments and peats) that have given valuable information on vegetation changes associated with postglacial warming.

Soils

The park's significance for soils relates to the great soil groups represented, particularly alpine humus soils, and the ecological services provided by the soils.

Karst

The park's significance for karst relates to hydrological and geomorphological values, habitat for endangered species, and the cultural heritage of the past use of these sites.

Aquatic ecosystems

The park's significance for aquatic ecosystems includes four small natural lakes (Albina, Blue, Club and Cootapatamba) that are the only lakes on the Australian mainland that were formed by glacial action. These are also the highest lakes (1890–2070 m) in Australia. There are significant lakes and subterranean water bodies associated with karst. Large rivers above altitudes of 900 m are considered an endangered habitat in the Snowy Mountains region. Undiverted, 'wild' river sections upstream of dams are the Upper Murray River to Murray Gates, Thredbo River down to the village, Goodradigbee River to Brindabella Station and Yarrangobilly River.

Flora

The park's significance for flora includes the vegetation of the alpine and subalpine zones and the Lower Snowy River area, and the adaptation and dominance of a single genus (Eucalyptus) over the entire elevational range from the coast to the subalpine tree line — the only occurrence of this in the world. The alpine flora is of world interest as it is a mix of species of autothonous (local) species and species of peregrine origins (from other continents). The significance lies in the many commonalities of the floristic groups and the affinities and differences between genera and species, compared with other Australasian alpine areas.

Fauna

The parks significance for fauna includes the extent of its biological diversity. Terrestrial habitats and fauna of the alpine and subalpine zone (15% of area) support populations of 100 native species including endemic or alpine specialists: one mammal, four frogs, four reptiles and a range of invertebrates (e.g. 10 species of Orthoptera and 10 species of Megascolecid earthworms). The park provides the opportunity to study global declines in amphibians, particularly at high altitude, and restoration of the predator hierarchy in large conservation reserves. The fauna of the alpine environment, and the alpine environment itself, is

generally acknowledged as among the most vulnerable in Australia to future climate change caused by the enhanced greenhouse effect.

Natural landscapes

The natural landscapes of the park underpin values related to wilderness, ecosystem processes at landscape scale, aesthetic values and cultural heritage.

Wilderness

There are nine wilderness areas recognised under the NSW wilderness legislation, which constitute 346,257 hectares (50.15%) of the park. These wilderness areas are significant at national and international levels as part of the Australian Alps wilderness.

Ecosystem processes

Ecosystem processes that are significant at the landscape scale include the natural fire regime on which many plant communities and species depend; the hydrological regime that is related to macroclimate and microclimate variations; soil formation; and the extreme seasonal variations including processes of snow fall, accumulation and melt, which are particularly critical in maintaining many of the most significant biological and aesthetic values of the park. The park contains the largest contiguous area of snow country in Australia, making it of national significance for this phenomenon.

Aesthetic

Aesthetic values are found in the natural scenery of Kosciusko National Park; both its wildflower displays and its snow-garnished slopes and forests, exhibit aesthetic characteristics highly valued by a large proportion of the population. There is much steep country, sometimes juxtaposed to water, within the Kosciusko National Park, but the natural aesthetic qualities that make it an exceptionally beautiful place for many people lie in the pastel pastiche of eucalypts, cypress pines, scleromorphic shrubs and tussock grasses that clothe gently undulating hills and flat-floored valleys, and the mosaic brightness of flowering daisies on the rounded slopes within the alpine plateau.

Cultural heritage

The cultural heritage of the park is found in many themes: Aboriginal use, pastoral, Kosciusko Huts, mining, water harvesting, conservation, and recreation.

Aboriginal use

There is new archaeological evidence for Aboriginal use of the alpine country, which, as well as being significant to Aboriginal people, provides important information for non-Aboriginal Australians interested in the story of human adaptation to this ancient landscape. Further work on significance to Aboriginal people is being done, but was not available at the time of this report. There is evidence of a long history of Aboriginal occupation in the alpine areas of Australia, demonstrating successful adaptation to environments unique to Australia and having potential to provide important new information about the length and nature of Aboriginal occupation.

Pastoral use

The pastoral theme, as it is expressed in the alps in general and Kosciuszko National Park in particular, represents montane pastoralism, a unique high country way of life representing a period of economic and social development which is of historic significance at a national level. Currango, built in 1850 and spanning 150 years of European occupation, is of national historic importance, being the largest and most intact example of pastoral settlement above the snowline. The whole Kosciuszko landscape has been affected by the pastoral phase and there is significant evidence of the pastoral era's impact on the landscape. Much of this evidence constitutes damage to the pre-European environment left by the Aborigines, but it also has significant historic value. The pastoral theme as expressed in Kosciusko is also of national aesthetic significance, with evidence of vernacular architecture and design. The various bush skills, traditional crafts and construction methods, which are a response to the unique environment, are important for the continuation of traditional skills and for research into them.

Kosciusko Huts

The Kosciusko Huts in their landscape setting, including the group of pastoral huts, probably comprise the largest group of different types of huts, designed for the widest range of purposes that exist in a comparative area anywhere in Australia. The complex of huts, ruins and huts sites have national historic and social significance.

Mining

The mining theme of the park relates to the adaptations in Australian the living and working conditions of mining practise to cope with life in a remote and rugged Australian environment. These adaptations include the Kiandra landscape, a gold rush site of national historic importance; there are additional outstanding sites at Grey Mare and Tin Mine.

Water harvesting

The water harvesting theme is illustrated at the Kiandra goldfield, and is also related to the Snowy Mountains Hydro-electric Scheme, a large part of which is within Kosciuszko National Park. The Snowy Scheme is the largest engineering scheme ever undertaken in Australia, with national significance as an engineering feat, a symbol of Australian achievement and a basis for Australia's multicultural society.

Conservation

The conservation theme relates to the effort that created Kosciuszko National Park, which was of historic importance in the development of the conservation movement at a national level. Its 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

The recreation theme of cultural heritage has a number of aspects of significance, including the Yarrangobilly Caves complex and Caves House and associated developments, which have historic and aesthetic significance as a component of the complex of cave sites developed for tourism as part of an important national social movement. The Kiandra area has significance as the place where downhill skiing was first practised as a recreation in Australia. The ski fields and ski resorts have elements of significance for historic, aesthetic and social reasons, for the important social movement they reflect, and because of elements of the architecture and layout.

Tourism and recreation

The tourism and recreational value of Kosciuszko National Park has been assessed as significant at a national level because of the natural scenic qualities of the park. These include its mountainous landscapes, its size and the presence of snow, and the exceptional variation in diversity of natural settings for recreational opportunities, including education opportunities. The park is especially valuable for its large areas of natural lands, which offer opportunities for solitude and self-reliant recreation.

Kosciuszko National Park and the Victorian Alps are the only two snowfields tourism destinations in mainland Australia. The domestic tourism significance of the park lies not in the total number of visitors who are attracted to it, but in the uniqueness of the tourism experience. It is one of the few areas of Australia where people are able to experience the unique climate, scenery, history and danger of an alpine destination.

Uses and service functions

Significant use values of the park include water supply for irrigation and agriculture, and power generation.

The soils and catchments of Kosciuszko National Park provide vital 'service functions' including water yield and protection of the park's catchments; they supply clean water for domestic use, industrial uses, irrigation, hydroelectric power and a wide range of recreational activities.

The contribution of the waters from the Snowy River to the value of irrigated agriculture in the Murray-Darling Basin is significant. Through Snowy Hydro Ltd, the Snowy River contributes at least 7% ($245 million) to the annual value of irrigated production in the Murray-Darling Basin. It was estimated that in 1992, the Murray-Darling Basin contained about 70% of Australia's irrigated crops and pastures and accounted for approximately 40% of Australia's total gross value of agricultural production.

Power generation is a use of the park's resources. The Snowy Mountains Hydro-electric Scheme has a generation capacity of 3756 megawatts, and can provide up to 11% of the total power requirements of the mainland of eastern Australia. It is an important peak load and emergency supplier because of the speed with which it can respond to sudden power demands. From a national perspective it is important as a power generator using a renewable resource. The actual contribution through its participation in the National Electricity Market is nationally significant; its physical location within the electricity grid provides support to both northern and southern major centres of electricity demand.

The recreation use values are significant to the region's economy; it has been estimated that the value of recreation in the NSW part of the Australian Alps is in the order of $5 billion per year.