Abstract

Bushfires regularly destroy remote vernacular buildings. Interpretation of the pre 1999 Burra Charter in the management of national parks meant that huts totally destroyed in bushfires were generally not rebuilt. The Kosciuszko National Park Huts Conservation Strategy, 2005, prepared for the NSW Department of Environment and Climate Change, established new methodologies for the conservation of this nationally important resource. The methodologies provide for extreme events such as bushfires and are founded squarely on the connection between associated communities and the amazing cultural landscapes within which the huts are located. This paper also addresses climate change trends relating to bushfires, the pre fire planning and prevention strategies as well as strategies employed to protect historic huts during fires.

Introduction

Bushfire is a key element in the human history of Australia. As well as leading to loss and destruction, fire has also been harnessed by humans to shape the physical and ecological environment to their advantage.

Adapting to fire is also required if we are to conserve our vernacular heritage in fire prone environments. This paper examines the impact of bushfires and other fire threats to the historic mountain huts in Kosciuszko National Park over time, as well as the current fire planning, prevention and protection and post fire strategies employed. The landscape that provided the resources that created and or sustained the huts, and which also underpins their heritage significance, also provides the threat to burn it all away.

Climate change is now understood to be affecting the pattern and frequency of bushfires. Recent CSIRO studies have concluded that for sites in southeastern Australia, an increase of fire-weather risk is likely, with the combined frequencies of days with high to very high fire danger likely to increase between up to 25% in 2020 and 70% by 2050 (Hennessy 2005). Other reports conclude that thunderstorms are likely to increase in tropical Australia resulting in greater bushfire risks (Bushfires CRC Fire Note No.4). Climate change is also resulting in a drier environment where bushfires, when they occur, have a bigger impact.

Importantly for heritage conservation practice, this paper addresses how Burra Charter methodology has assisted in situations where there is a total loss of fabric. The application of this methodology underpins a paradigm shift in approaches to the conception and management of these hut landscapes of potential national significance; an approach that is founded on whole of landscape and living landscape concepts.

The Phoenix is a mythical bird of great beauty, the only one of its kind, fabled to live 500 or 600 years in the Arabian wilderness, to burn itself on a funeral pile, and to rise from its ashes in the freshness of youth and live through another cycle of years. In the Kosciuszko wilderness, where the timber slab huts are found to have strong intangible values associated with their place in the landscape, they too can arise, Phoenix like, from the ashes as part of a living landscape.

The huts of Kosciuszko National Park

Together with adjoining national parks in Victoria and the ACT, Kosciuszko National Park is a landscape of national heritage significance. It is over 690,000 hectares in size and covers a large range of elevations that in turn creates distinctive landscapes from dry open forests on the lower slopes to alpine herbfields at higher elevations. Winter snows are typical over a large area of the Park and the landscape provides evidence of Pleistocene glacial activity (KNP PoM 2006).

Kosciuszko also contains evidence of human occupation spanning thousands of years, with many of the routes inscribed in the landscape first established by Indigenous peoples who created a network of pathways linking camps, sites rich in natural resources, and ceremonial sites (KNP PoM 2006).

These paths were later used by pastoralists who moved stock to natural mountain grasses in summer. The location of remaining shepherds’ huts at the edges of the natural ‘cold air drainage’ grass plains are an indelible marker of human use of the landscape (Figure 1). Therefore, not only do many of the huts form important ‘way points’ on old or ancient paths and routes but they also provide a way through which the landscape history can be described and interpreted.

The huts reflect other historic land uses and themes including mining, brumby running, scientific research, skiing and bushwalking. More recently, huts were built as part of the
nationally important Snowy Mountains Hydro-Electric Scheme. Some of the huts have direct associations with Aboriginal people who built them or stayed in them while shepherding sheep and cattle (GML 2005).

At the time of the creation of KNP in 1967 there were about 100 huts, with about twice that number of ruins and archaeological sites of former huts. There are currently 65 intact huts and standing ruins. The huts are available to park users for emergency shelter and are maintained by the NSW National Parks and Wildlife Service with the assistance of volunteer caretakers, primarily the Kosciuszko Huts Association.

The bushfires of 2003 and 2006

The primacy of natural values management in the early days of the Park meant that hut loss in fires was not seen as a major issue. Conclusions that significance resided solely in the fabric of huts affected discussion of what to do following fire. Interpretation of the pre 1999 Burra Charter definition of reconstruction 'not being the majority of fabric' resulted in what was termed locally 'the 50% rule'; if more than 50% of fabric was lost, then reconstruction could not occur (GML 2005).

The loss of 19 huts destroyed or badly damaged in the Park when wildfire swept through southeastern Australia in January 2003 threw into stark relief the reality that, without recourse to the opportunity to rebuild, all of the huts would ultimately be lost. Something had to give.

These bushfires had a devastating impact (Figure 2). The firestorms that engulfed suburban Canberra on 18 January 2003 resulted in the deaths of four people and 500 homes destroyed (ACT Government 2006). In this same series of fires over 40 huts were lost or badly damaged within the Alpine National Park in Victoria and a number in Namadgi National Park south of Canberra, including the early and significant Mount Franklin ski chalet (GML 2005).

A huge effort went into protecting the huts in KNP in 2003 in recognition of their significance. With the best will and good luck many huts were saved (Figure 3), while some were unlucky (Figure 4). The highly significant timber log Pretty Plain Hut was bombed with retardant several times only to find the area under the narrow eaves was missed and fire embers landed there and burnt down the hut.

If this was not enough, the bushfires returned to Victoria at the end of 2006 resulting in the loss of approximately 14 more mountain huts (VHCRA). The fire jumped the border and also threatened a number of huts in KNP.

The KNP huts conservation strategy 2005

The Kosciuszko National Park Huts Conservation Strategy, October 2005, prepared by a team from Godden Mackay Logan and Context for the what is now the NSW Department of Environment and Climate Change (DECC) was, in part, asked to respond to these losses. The Conservation Strategy included intensive consultation with associated Indigenous and non indigenous communities to identify the social significance of the huts (GML 2005:2).

The conservation strategies developed were driven by the concept and assessment of significance. It was clear that the values of historic, aesthetic and social, by themselves were not adequate to describe the huts values in the landscape. A cultural landscape value was described that reflected both tangible and intangible aspects that combined use patterns and paths over time and a sense of place in the landscape (GML 2005:119). The intangible social values are linked to...
tangible aspects in the landscape, such as paths and routes, and result in a sense of place or genius loci.

The conservation strategies developed were founded on the following principles:

- the recognition of the huts as central to the landscape history of Kosciuszko, including the history that post dates its formation;
- the retention and recovery of social significance and ongoing cultural landscape patterns of use that were severed as a result of the bushfires of 2003;
- a more holistic approach to the management of the interface between cultural values and natural values;
- harnessing the energy, skills and commitment that arises from strong community associations with the huts, and the recognition of ongoing caretaker contributions in the future management of the huts;
- the need to reduce threats but accept risks as core elements in priority setting; and
- the need for a communication and education strategy to connect to the broad Australian community.

The Huts Conservation Strategy has at its core whole of landscape and living landscape approaches that seek to conserve the physical, historical and social settings of huts within a dynamic environment. This is a paradigm shift in the conception of time in the management of heritage assets within Kosciuszko National Park where social and cultural landscape values are seen as a link between the past, present and the future.

The Huts Conservation Strategy responded to fire threats in two principal ways:

- strategies were developed to assist the planning and prevention of bushfires and other fires, and to protect huts when fires do occur; and
- strategies were developed to assist in making decisions following fires about whether to reconstruct damaged huts, rebuild destroyed huts, or to commemorate, but not rebuild, other huts destroyed.

Pre Fire Planning Strategies

Fire planning strategies include hut specific planning and monitoring. The recommended planning includes an archival record and an assessment of heritage curtilages of all huts and a recording of features within that curtilage on the DECC Historic and Aboriginal Heritage Information Management System databases (AHIMS and HHIMS) and on GIS maps. These features can include Aboriginal and historic archaeological relics, cultural plantings, significant natural vegetation, yards and chimneys. The planning is identified in Heritage Action Statements which are short works focused Conservation Management Plans prepared for each hut that includes risk assessments for fires and other extreme events (DECC 2007). A fire plan will be located inside each hut and in the front of hut log books to identify what to do in the event of internal fires, refuge areas and to provide safety information if hut visitors are caught in a bushfire. This planning is also cross referenced to the overall KNPs Fire Management Plan for which hut protection is a key strategy.

Pre Fire Prevention Strategies

The fire prevention strategies are aimed at identifying and minimising risk, based on known facts while also minimising threats to significance. Regular inspections identify the need for fuel load reduction burns and thinning or clearing non significant vegetation in the immediate vicinity of huts. Each fireplace, chimney, hearth and surrounds is checked as part of a cyclic maintenance program.

Accidental fires inside huts resulting from poorly managed or overly large fires are a big risk; especially for inexperienced hut users. For the prevention of fires inside huts, strategies include a minimal firewood collection policy. In some cases the size of fires and even the replacement of the fireplaces with a slow combustion stove is considered. However, the significance of the fireplace is considered in any changes made by recognising: that open fires are a historically important element of the character of huts and contribute to significance; the relative significance of each fireplace and its components within the huts collection, and that change is minimized and is reversible. In association with the fire plan for each hut, water buckets and fire extinguishers are being introduced.

Protection strategies during fires

Protection strategies during fires are co-ordinated by a Fire Planning Unit. Protection for the huts, like other assets, can involve back burning operations to provide a clear space around the hut to starve the fire of fuel as well as using bulldozers to create a control line around huts and other features (Figure 3). During these operations an Aboriginal sites officer may move in front of the bulldozer identifying sites that should be avoided.

![Figure 5: Tin Mines Hut wrapped in building foil ahead of the 2006 bushfires; luckily in this case it rained and the foil was not tested. (Dan Nichols DECC)](image-317x280 to 562x463)

The relative significance of huts and personnel safety issues associated with the location of the hut is a determinant in the deployment of fire fighting resources during fires. Fire fighting techniques can include the use of chemical fire retardants (such as the pink ‘custard like’ Phoscheck Retardant) applied along the control line or even on the hut fabric itself. This retardant can be applied in advance of the fire. This technique worked on Gooandra Hut in 2003, but as noted above, did not work on Pretty Plain Hut.

During fires small teams can be dropped in by helicopter to prepare the site in advance of the fire front. In the 2006 fires that jumped the state border, Tin Mines and Cascade Huts were wrapped in aluminum building construction foil to resist radiant heat (Figure 5) (Bowden 2007). This technique has been used by the Parks Service in the USA and also trialed...
by the Victorian Parks Service. Luckily in this case, the fire
did not reach the huts. Where fire fighters need to be
withdrawn for safety reasons, then controlled burning within
the fire line may be undertaken prior to withdrawal. During
fires foam can be dropped on or near huts from helicopters
to help smoother the fire.

Post Fire Conservation Strategies

Post fire strategies identified in the Huts Conservation Strategy
for huts destroyed or damaged in fires or other events are
determined primarily on the basis of the nature of the
significance of the hut. A key factor in the decision making
process developed was the revised Burra Charter definition
that ‘Cultural significance is embodied in the place itself, its
fabric, setting, use, associations, meanings, records, related
places and related objects (Article 1.2)’.

The revised definition of reconstruction that ‘In rare cases,
reconstruction may also be appropriate as part of a use or
practice that retains the cultural significance of the place’ was
also helpful to connect reconstruction and rebuilding and the
retention of cultural significance, in particular, social significance.

The Huts Conservation Strategy identified that if the majority of
fabric remained then reconstruction (completion of the whole
by the introduction of new material) may be appropriate. In the
case of a number of damaged river stone huts, sufficient wall
fabric remained to provide for their repair (GML 2005).

In the case of huts destroyed, the Huts Conservation Strategy
found that while social significance may disappear over time if
significant associations between people and a place are not
nurtured, these significant associations will not immediately be
lost if fabric is destroyed. The presence of social significance
together with a strong cultural landscape value became
threshold criteria for considering rebuilding. A flow chart of the
reconstruction / rebuilding / commemoration decision making
process is shown on Figure 6. The application of these criteria
resulted in a recommendation for rebuilding six of the huts
destroyed in 2003 (Figure 4) and another one destroyed prior
to that date together and the reconstruction of another four
damaged in 2003 (Figure 7).

The Huts Conservation Strategy also identified opportunities
for ongoing community participation. The rebuilding will
deliberately involve people with associations with each place
and will take the time needed to increase participation.

In addition to significance and fabric retained, other constraints
such as location in a fire prone area are considered before a
proposal decision is made and a formal environmental
assessment undertaken. If the hut destroyed did not meet
the identified significance criteria, then some form of
commemoration would be appropriate. In all cases both site
and off site interpretation is recommended.

Implementation of the Huts Conservation Strategy

Following the completion of the Huts Conservation Strategy,
design guidelines have been prepared for any huts proposed
for rebuilding, following the application of the criteria discussed
above (GML 2007). The rebuilding design guidelines are
modelled on the Burra Charter conservation planning process
where significance and constraints that arise from significance
are identified before other constraints and opportunities are
addressed. Key principles are:

- What factors in the significance of the lost hut were key to
  the decision to rebuild the hut and how were they
demonstrated? This would include the key social and
cultural landscape values.
- What other elements of significance, such as historic or
  aesthetic values, contributed to its social or cultural
  landscape value that could inform the design or warrant
  interpretation?
- What other functional, regulatory or stakeholder issues
  may influence the design outcome?

Rebuilding lost elements that contributed to the original hut’s
values provide some link with the original hut, and can therefore
assist an interpretation of the original hut, but do not replicate
those values. A re-creation would also falsify the historic record.
A design response that reflects aspects of both traditional and contemporary design provides a ‘living landscape’ message that may answer the need to continue traditions in the use of materials from or near the place and the need to reflect a sense of renewal. In most cases the appropriate design outcome will be one that reflects or interprets the values of the original hut while introducing new design elements or materials to assist safety and reduce required maintenance (eg BCA, fire protection, resilient materials). The building code requirements of new buildings in fire-prone areas may influence the nature of the hut design. It is likely that a number of design changes will be made to the first hut to be rebuilt, Broken Dam Hut, so the new hut is practical, safe and can be maintained, while not losing its essential vernacular ‘rough and ready’ character.

The rebuilt hut should be located at or near the locus of the route/path that the original hut was located on as this is a key part of the hut’s significance and the rationale for the rebuilding. The preferred approach is to build near, but not on, the previous hut site, as this allows for an interpretation of the original building and its site, and its retention as an archaeological site. An archaeological survey should be made of potential archaeological issues for proposed sites. Orientation is very important in the location of huts, especially if orientation was a specific part of significance.

Conclusions

There is evidence that climate change is increasing the frequency and strength of natural events such as bushfires. There have been changes in the manner that agencies plan to prevent bushfires destroying historic resources such as huts. Prevention and protection strategies, such as those in the KNHuts Conservation Strategy, now focus more on targeted protection of properties such as huts. A sound understanding of the heritage significance of huts, their associated objects and places is an essential aspect of preparedness.

Despite the best will and technology historic huts numbers have dwindled in the three mainland states. While the retention of existing huts is a key management objective, where huts are lost during bushfires and other fire events, then the KN Huts Conservation Strategy 2005 provides a series of significance based decision making criteria as to whether huts could be rebuilt (subject to environmental assessments). NSW DECC is currently implementing the design guidelines discussed in this paper and is aiming to begin rebuilding in the summer of 2007/2008.

In Australia, vernacular rural heritage places and climatic extremes have a symbiotic relationship and heritage practice must, and has, responded to the challenge posed by these climatic extremes. In the case described here it is the underlying relationship between huts and the landscape that has itself provided an answer to what to do when huts are destroyed. This paper highlights the importance of intangible values connected to place in the landscape; particularly in relation to our fragile vernacular built environment.

Prior to the most recent revision of the Burra Charter its use by park management agencies focused on the retention of original fabric. An unplanned consequence of an interpretation that significance resided only in fabric would be the eventual loss through bushfires of all mountain huts on public lands – one of the few places where many Australians can experience this unusual building type. The Burra Charter has provided a strong nexus between social significance and conservation policy. The retention of significant use, meanings and associations has practical implications for management and may provide for rebuilding huts based on the continued short to medium term existence of social and cultural landscape values following destruction in fires. While broad scale reconstruction remains a major concern/issue, the selective use of reconstruction (described as rebuilding here) where it has been demonstrated to retain cultural significance is justified, as outlined in this paper.

Like the mythical Phoenix it is the ‘mythical’ powers associated with the huts (that is, their intangible heritage values) that provide the impetus for a rebirth from the ashes.

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