

# **Ecosystems at Risk: Alpine**

Riverina Environmental Education Centre

## **Management**

### **Aboriginal**

Aboriginal people did use the alpine area but there is very little physical evidence left of their presence. They did not live permanently in the high country, but migrated there seasonally. Although the high country generally has a low carrying capacity (cannot support many people), Aboriginal people used it in a sustainable way. The migration of bogong moths to rest in the cool mountains in summer represented a seasonal concentration of a food source which allowed a seasonal increase in the carrying capacity of the land which Aboriginal people exploited.

The Djilamatang from the western plains would gather near Tumut, the Ngario from the tablelands to the east would gather near Jindabyne and the Jaitmajhang travelled from Victoria. Management was in the form of the Aboriginal lifestyle and culture. The hunter-gather life style required a large area of land over which people moved from food source to food source allowing previously occupied land a chance to recover. When tribes met at the various meeting areas, before proceeding to the high country they agreed on the areas which each tribe might search for moths.

The lifestyle management of the Aboriginal people meant the land was used on a seasonal basis and different tribes were allocated different areas so the land was not used beyond its carrying capacity.

### **Grazing**

The original graziers used the resource in a non-sustainable way when they grazed large numbers of sheep and cattle. They introduced a very large herbivore (cattle) to the food chain which ate large quantities of plant matter, which because of the short growing season, could not grow back quickly, leaving the soil unprotected and open to the agents of erosion, wind and water.

The heavy hooves of the cattle also trampled the fragile vegetation which also created tracks which turned into erosion gullies. The graziers also burnt the area before they left at the end of summer to encourage new growth for the following year. The vegetation of this area is not adapted to survive fire, it was not part of the natural environment. Fire resulted in the death of snow gums and the replacement of the tall alpine herbfield with more fire tolerant shrubs which the cattle did not eat anyway.

### **Leases**

An attempt was made to manage the alpine area with the introduction of grazing leases in 1889. This controlled areas allocated to lease holders but did not control livestock numbers. In 1943 snow leases were introduced which restricted stock numbers and burning. In 1944 the Kosciuszko State Park was established and grazing of the alpine area was progressively phased out and by 1958 all grazing above 1370 metres was prohibited and the Soil Conservation service commenced revegetation work.

### **Present: National Park**

The most significant development in the area being managed on a sustainable basis occurred when the area was declared a national park in 1967. It meant the area was now covered by government legislation

to protect it but it also allowed sustainable use by people.

To protect but also allow suitable use caused a dilemma for the managers of Kosciuszko National Park. There are many possible land uses but which ones are compatible with the sustainable use of the environment?

Not all alpine and sub-alpine areas are the same. The Kosciuszko area is the highest, most fragile and the area most in demand by tourists. Some areas have very little access, towards the centre of the park and surrounded by very rugged terrain, other areas are near the edge of the park and have good access and snow cover in winter.

A major management tool was to divide the park into different management units or zones and to manage each of these differently. The coloured map shows some of the management zones around Perisher Valley.

These zones include: Wilderness, Scientific, Resort and Kosciuszko Outstanding Natural Area. Each zone had specific rules for use and management techniques.

### **Kosciuszko Outstanding Natural Area**

Some management decisions for this area include the following. No commercial development is allowed. People are encouraged stay to tracks via signs and the track was improve for easier walking. This resulted in the raised metal walkway to Kosciuszko which allows plants to grow beneath it. Camping beside the glacial lakes and in their catchments is not allowed because of the pollution. Huts which were in fragile places or did not have a heritage or survival value were removed. No campfires above the treeline are allowed. The road to Mt Kosciuszko from Charlotte Pass was closed to vehicles. The walking track up the side of Mt Kosciuszko, at right, was closed and is now being revegetated. Soil erosion areas caused by earlier cattle grazing were rehabilitated with mulch, tar and seed. The walking track from Charlottes Pass to Blue Lake has also been paved.

### **Resort Zone**

The major ski resorts pose a problem because they started to develop before there were any planning controls. Perisher Valley is very spread out, quite large and in a sensitive, higher altitude location than Thredbo. Because it has a lot of overnight accommodation it is basically a town with all the services required by a town i.e. restaurants, fire station, ambulance station, medical centre, big car park, sewage treatment plant, water supply, rubbish disposal problems etc.

National Parks have tried to manage the resorts for sustainable use by having land use zones within the resorts. Perisher has zones for lodges, ski runs, areas that can't be changed (snow gum areas), restaurants etc. Any proposal for development must be accompanied by an Environmental Impact Statement or just an Environmental Statement for a small development. Parks employ a Resort Planner to control this.

A major management tool is to limit the size of resorts by the number of beds allowed for overnight guests. Perisher Blue Resort was allowed 3 183 beds but the new Blue Cow Resort shown here only has 25 beds for workers. (Recent political lobbying by commercial interests appears to have by-passed the Plan of Management to allow many more beds in Perisher Blue in the future.) Hence, the Blue Cow Resort does not have all of the problems associated with overnight visitors. The Ski Tube shown below is a major management tool. It takes day visitors to Perisher and Mt. Blue Cow. This encourages skiers to

sleep outside of the park and stay in Jindabyne, a far less fragile area, and visit the park on a day basis. The Ski Tube is the only access to Mt. Blue Cow Resort, thus protecting the fragile area around this resort from the for need for roads, car parking and pollution from cars.

**Wilderness Zones** are basically isolated areas left in their natural state so that the only access is by hiking in or cross-country skiing in winter.

## Managing Vegetation Communities

Within the alpine area, each vegetation community poses it's own management problems because some communities are more fragile and some cover very small areas.

**The windswept feldmark** is very fragile and of very limited area, growing on the exposed ridges. Plants grow very slowly and the soil erosion hazard is extreme. Unfortunately these are also the areas people like to walk to for the best views. Where possible walking tracks will go around these areas and raised mesh viewing platforms will be constructed in popular areas.

**Bog communities** are also extremely fragile and limited in area. Fortunately people don't like walking through boggy areas but cattle did and they caused the death of many bog communities. Once trampled the sphagnum moss died, small streams formed in the cattle tracks. The streams then drained the water from the bogs so they dried out, killing the water loving plants. Grazing was incompatible with sustainable use of bog communities and this was a major reason for the removal of cattle from the high country.

**Short alpine herbfield** communities are again fragile and limited in extent, found below melting snow patches in summer. Visitors like to slide down these snow patches and their feet land in the short alpine herbfield. The management dilemma is how to protect the plants while allowing visitors to have fun.

**Heath communities** provide the only wood which campers can burn for fires. A small branch may have taken hundreds of years to grow so camp fires are banned above the treeline.

**Tall alpine herbfields** are the toughest plant communities and cover the largest area. It is the best community to locate walking tracks in. When it was grazed the cattle were selective eaters, they preferred some plants and not the tough poa (snow grass) which dominated the community. As a result some plants became rare and the community lost some of its biodiversity. Since grazing was stopped, many herbs such as mountain celery and the anemone buttercup are becoming more common.

## Management of Specific Native Animals

The habitats of rare or threatened native animals are managed to minimise disturbance. The mountain pygmy possum lives among granite boulders with the females living in better habitat towards the tops of mountains while the males live in poorer habitat lower down. To mate the males must migrate up the mountains using boulder fields for protection. When the new Mount Blue Cow Resort was being planned a population of possums was found on a proposed ski slope which needed to be cleared of boulders for skier safety. This would have hindered the migration of males so a long ditch was dug and filled with boulders so the possums could migrate up and down the mountain.

