

POSSIBLE IMPACTS OF THE WORLD HERITAGE AREA MANAGEMENT PLAN ON THE MAINTENANCE OF BIOLOGICAL DIVERSITY

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Abstract While the Tasmanian Wilderness World Heritage Area (WHA) management plan is one of the best of its type to be produced in Australia, it contains several features that may endanger elements of biological diversity in the long term. These relate to the threatening processes of exotic species invasion, stock grazing, unwise recreational use, fire and infrastructure development.

INTRODUCTION

Biological diversity has been defined as the variety of life. The concept includes communities, species and genotypes. The goal of maintenance of biological diversity implies no loss of any members of these elements beyond that attributable to natural extinction rates. As it is almost impossible to recognise a natural extinction among the many losses that are occurring with accelerated human use and misuse of the biosphere, the operational goal becomes: the avoidance of extinction. As undescribed communities, species and genotypes almost certainly outnumber those that are known, the operational goal necessarily becomes the avoidance of extinction of all identified elements of biological diversity.

The Tasmanian Wilderness World Heritage Area (WHA) is one of the most important areas in Australia for the maintenance of biological diversity. Its size and environmental diversity ensure that, if managed properly, a large proportion of Tasmania's biological diversity will be able to survive and flourish, even with likely substantial macroclimatic change. It is thus a classical ecological reserve in the sense of Specht *et al.* (1974).

While the management objective for the WHA is to protect, conserve, present and, where necessary, rehabilitate the natural and cultural heritage (Department of Parks, Wildlife and Heritage, Tasmania (DPWH) 1992), many of the uses of the area that are allowed under the management plan have damaged, or have the potential to damage, biota and communities. The most recent revisions incorporated in the plan have increased this potential, as most of them have ultimately emanated from the self-termed 'traditional users' and resource

developers whose interests are elsewhere than biological diversity. In this paper I assess the potential impact on the maintenance of biological diversity of the types of activities that are permitted in the final statutory document. I organise this assessment by threat rather than activity, as different activities can contribute to the same endangering process.

THREATENING PROCESSES

Introduced Organisms

A small group of introduced organisms pose the most serious threat to the biological diversity of the WHA. Feral cats and European wasps are the only introduced organisms that occur over the greater part of the area of the WHA. Their impacts on biological diversity are uncertain, but probably significant. Goats, dogs and rabbits are established on the Central Plateau/Western Tiers section of the WHA. The latter species has combined with sheep grazing and firing to create some of the worst sheet erosion in Australia. This erosion transformed the nature of several alpine communities (Jackson 1973). The grazing activity changed the relative abundance and total cover of many plant species (Gibson and Kirkpatrick 1989). Despite the abundant scientific evidence of deleterious effects of stock grazing on the vegetation and soils of the subalpine and alpine zones of Australia (e.g. Wimbush and Costin 1979abc) the final management plan provides only a short moratorium on stock grazing until its affects can be determined scientifically. This reflects the attitude that no scientific results can be accepted unless the work is done at the local level. The *reductio ad absurdum* of this argument is a need for replicated experimental exclosures in every environment in every potential lease. Implied in the argument is the granting of the benefit of the doubt to the grazier rather than the native biological diversity. Thus, DPWH is expected to prove grazing harmful, rather than the graziers proving it to be harmless. A similar situation prevails with the European bee, which is assumed to be harmless until proven otherwise.

A potentially disastrous goat problem on the Plateau has been addressed in the plan. However, the dog problem has been exacerbated. Wild dogs may pose a significant threat to some small native animals, yet the plan allows shooters to be accompanied by three adult dogs and a puppy each, all unleashed.

The trout is the introduced animal that most threatens the biological diversity of the aquatic ecosystems of the WHA. The management plan allows trout fishing in all WHA waters, thus providing an incentive for illegal stocking of previously trout-free lakes and streams.

One introduced higher plant threatens the extinction of native species. Marram grass (*Ammophila arenaria*) can displace the native sand binders, such as

Spinifex sericeus, from sand dunes. If it were used in an attempt to stabilise dunes to protect archeological deposits, its spread in the South West would be accelerated. Fortunately, the management plan effectively precludes this option.

The cinnamon fungus, *Phytophthora cinnamomi*, has the greatest potential of any plant to reduce the biological diversity of the WHA (Podger and Brown 1989; Podger *et al.* 1990ab). At present it is found along many of the four wheel drive and walking tracks of the WHA. Four wheel drive vehicles have a great potential to accelerate its spread. Although the management plan provides for the closure of several four wheel drive tracks, many are left open, without imposing immediate hygiene measures. Regulations are also needed to ensure that walkers clean their boots and tent pegs when moving from infested to uninfested areas. Again, while there is provision for the development of a strategy, there are no immediate measures proposed.

Fire

During the last 200 years fire has destroyed large areas of alpine and rainforest vegetation dominated by gymnosperms and deciduous beech (*Nothofagus gunnii*) (Brown *et al.* 1983; Kirkpatrick and Dickinson 1984; Brown 1988). Most fires in the WHA are ignited by people. The potential for ignition is increased by road access and the use of camp fires by walkers, fishermen, drivers, horse-riders and shooters. The probability of ignition is likely to have a positive relationship with the numbers of people using any area. Fuel stove only conditions have been imposed over much of the WHA. However, the Central Plateau is one of the major exceptions. The maintenance of four wheel drive access to the Pillans Lake area is particularly disturbing in this respect.

Access and Tourism Development

The wheels of off-road vehicles, the hoofs of horses and the boots of people are capable of totally eliminating vegetation at relatively low levels of use (e.g. Calais and Kirkpatrick 1986; Gibson 1984). Although the total area thus affected is small in comparison to the WHA as a whole, the location of tracks and roads is environmentally selective. The management plan promises access for horse riders to several areas, some of which will only be available for this activity if DPWH cannot show that horse riding would lead to unacceptable damage. The plan provides for walking track closure and the regulation of numbers of users. It is to be hoped that such action takes place quickly, as the high altitude unconstructed tracks are an exponentiating problem. Immediate closure of the Arthur Range tracks should be seriously contemplated.

The construction of roads and tourist facilities have immediate defoliating affects, and downstream affects related to waste disposal and increased usage of

the natural environment. Visitor service zones and sites are all available for this type of development.

CONCLUSION

While it is probably true that the types of damage to the biota allowed under the management plan do not threaten the survival of any element of biological diversity during the five year period of the plan, they will, if continued, almost certainly reduce the long term survival probabilities of many genotypes, species and communities. A more biological diversity-oriented management plan would ensure that damage did not exceed the restorative capacities of the WHA ecosystems, and would certainly give the benefit of the doubt to the biological diversity, not the developer or recreationalist. Nevertheless, despite the problems discussed above, the WHA management plan is one of the best documents of its type to be produced in Australia. Its deficiencies relate to the outcomes of a political process rather than the competencies of its producers.

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WHO GOES THERE! — TRADITIONAL RECREATION AND THE WORLD HERITAGE AREA

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The June/July 1992 edition of the *Tasmanian Conservationist* carried a letter of complaint from the Director of the Tasmanian Conservation Trust, Peg Putt, to the Federal Minister for the Environment, Ros Kelly, about last minute alterations to the World Heritage Area Management Plan. In urging the Minister to refuse the suggested changes, Putt made three interesting points. Firstly, she put the view that the changes flew in the face of an extensive and exhaustive public consultation process; secondly, that the plan was compiled by experts; and thirdly, that the government was exhibiting gross favouritism in only consulting selected so-called traditional user groups. While she was right in one sense, to a significant section of the Tasmanian population she was dead wrong on every count!

The explanation of this apparent contradiction largely rests on our differing cultural perceptions of the World Heritage Area, perceptions conditioned by European understandings of the Tasmanian environment. Historian Richard Flanagan has written of the development of the myth of south west Tasmania as a desolate waste land, of a land without people, of a place without history (Flanagan 1985). It was a modern expression of this myth that led scientists to believe that Aborigines abandoned the south west after the last ice age, that no-