

The major constraint on the PNA Programme is the difficulty in negotiating valuable conservation land out of pastoral leases, even if the land has negligible grazing value. Individual lessees have shown goodwill and come to valuable agreements, but the implementation process has been effectively stalled by the reluctance of most lessees to relinquish land from their leases. The focus of the programme has been also too narrow to protect the full range of conservation values in the high country. Its original emphasis on the very best areas has ignored the wider ecological, landscape, historic and recreation values.

Recent responses to the loss of natural values and the doubtful sustainability of grazing in the South Island high country have made the need for change very convincing. The need to protect the high country's natural values and to maintain agricultural productivity are issues of national significance.

Land degradation critical

Land degradation is now so critical in the dry intermontane basins that there will soon be little left for either nature conservation or farming. There is a pressing need to define sustainable land use and implement it in a practical and equitable way. It is also vital that

representative areas of tussock grasslands are protected.

The lack of secure tenure and ignorance have been blamed for the early land degradation. Yet the security of tenure provided by the renewable leases and legal restraints of the 1948 Land Act has not prevented the continued degradation we are witnessing today. The call for secure tenure is still being used to downplay the important effects of economics, speculation and unsustainable farming practices. Wholesale freeholding of these fragile public lands is unacceptable to most people and will not solve any problems. The suitability of much of the high country land for freeholding has always been questioned and the arguments against freeholding are even stronger today, when the sustainability of pastoralism itself is in doubt.

Performance standards are required for high country pastoral lands management. Enforcement of lease and licence conditions is essential, but this will only be effective if comprehensive ecological monitoring is undertaken. Research and advisory bodies must change their emphasis from the promotion of increased production to the encouragement of sustainable land use.

Accompanying the greater control and accountability must be rationalisation of all land contained within pastoral leases and licences. Mountain peaks over 2000m, sensitive alpine cushion fields, snowbanks and herbfields, extensive rock scree, wetlands, forest and spectacular tussock grasslands are contained within grazing leases.

Changes in land tenure, to protect these areas as conservation land and rationalisation of run boundaries, is required. This could be achieved under a new modified Land Act through the proposed process of categorisation (see box) or through a similar exchange of rights between lessees and the Crown.

It must also be accepted that there are magnificent natural high country areas outside pastoral lease land, including the University of Canterbury's 77,000 ha of endowment lands. The objectives of sustainable land use, the protection of conservation and landscape values, and the provision of public access should apply to these lands as well.

The grand high country scenery so eloquently described by generations of poets and writers, and the diversity of special plants and animals which make up such this unique part of our natural heritage, are seriously threatened.

The devastation of the tall North American prairie, the desertification of Australia's semi-arid lands prompt our criticism. Yet our own unique tussock grasslands are being destroyed before our eyes. We have a national and international obligation to protect this important part of our heritage, for the sake of the species that live there, the joy and inspiration we derive from its magnificent landscapes, and for future generations of New Zealanders.

References

Sustainable Land Use for the Dry Tussock Grasslands in the South Island, *Report of the Parliamentary Commissioner for the Environment*, March 1991.

P.J. McKendry and K.F. O'Connor, *The Ecology of Tussock Grasslands for Production and Protection, Unpublished Report for the Department of Conservation*, June 1990. 🐦

Hieracium – goodbye tussock



The "creeping grey hand" of ground-hugging hawkweed (*Hieracium pilosella*) forms an unbroken sward at the expense of all other plants. Photo: Mike Harding.

IN THE 1940s it was scabweed that invaded the high country grasslands. In the 1990s it is the introduced *Hieracium*. Landholders now talk of the "creeping grey hand of *Hieracium*", and despair over how to respond.

Large areas of grassland have been eliminated and replaced with this ground-hugging mat plant of little value for grazing, and disastrous for landscape or nature conservation. First recorded in the country over 100 years ago, it has only become prevalent in the high country in recent years. It now forms more than 50 percent of the plant cover over at least 500,000 ha, in places forming an even sward at the expense of all other plants.

Of the four main species, mouse-ear hawkweed (*Hieracium pilosella*) is the most dominant on pastoral lands, particularly in the 400-600mm rainfall zone. Its spread is clearly influenced by grazing, though there is debate over which factors are most important. It is well adapted to arid and infertile areas and has thrived in areas of modified or short tussock grassland. Spreading predominantly by stolons and efficiently exploiting soil moisture, *Hieracium* has out-competed, and perhaps displaced, other grassland plants including native tussock seedlings.

The spread of *Hieracium* has alarmed runholders and conservationists alike.

No land in the dry zones appears exempt from its invasion, particularly in the presence of uncontrolled grazing by rabbits. Mouse-ear hawkweed's cousin, the aptly-named king devil (*Hieracium praealtum*), has become a major species on disturbed infertile sites in the wetter western mountains.

Both species have been recorded in Arthur's Pass, Mt Cook, and Mt Aspiring National Parks, and the presence of *Hieracium* has significantly downgraded important areas identified for protection by the PNA Programme.

Ready solutions are not apparent. In moister areas the application of fertiliser allows other species, such as oversown legumes, to outgrow *Hieracium*. This is often uneconomic or unsympathetic to nature conservation values. The search for a biological control agent is underway but initial results do not look promising. Rusts and fungi being investigated are likely to only reduce the vigour of *Hieracium* slightly and are probably five years away.

Concern has been expressed that *Hieracium* is all that remains to hold the soil in place in some areas, and that its removal would be disastrous for soil conservation. As with rabbits, we cannot simply blame *Hieracium*. The plant is clearly a successful opportunist, colonising country that has been bled of its nutrients by animals and fire.