
MAORI CUSTOMARY USE OF NATIVE BIRDS, PLANTS AND OTHER TRADITIONAL MATERIALS

Submission to the New Zealand Conservation Authority on their discussion paper on Maori customary use.

This submission was co-ordinated by Euan Young, from reports produced during four meetings of members of the New Zealand Ecological Society held at Dunedin, Christchurch, Wellington and Auckland. The version published here has been edited to remove some minor errors and to ensure stylistic consistency. The original submission had, appended to it, two letters by Drs Shane Wright and Graham Nugent, representing views of scientists of Maori descent. Those viewpoints are reproduced in a separate article in this issue of the Journal (Wright, Nugent and Parata, 1995).

Introduction

The New Zealand Ecological Society was formed in 1951 to promote the study of ecology and the application of ecological knowledge in all its aspects. Membership of the Society is open to any person interested in ecology and includes botanists, zoologists, soil scientists, teachers, students, conservation and resource managers, both professional and amateur. The Society has some 450 members and produces two *Journal* issues and four newsletters each year.

Through their work as ecological researchers and resource managers, many members of the Society have a direct interest in the outcome of any developments leading to changes in the way the New Zealand conservation estate is managed, conserved and exploited. Many, through their employment and their interests, would be directly involved in establishing, monitoring, researching and assessing harvesting projects. Because of this close involvement it is important that any dialogue about harvesting should involve professional ecologists. No other science group has so much to contribute - and so much to gain and lose.

Ecology has been recently defined "as the scientific study of the interactions that determine the distribution and abundance of organisms" (Krebs, 1994). Ecologists, by definition and through practice, have a holistic, all-embracing view of nature and the environment. They have a good

understanding of the place of animals and plants in the environment, of the diversity of habitats, of the interlinking between species, of the diversity and abundance of species, and of their biology and management. Many Ecological Society members have specialised and often detailed understanding of the principles of population ecology which must underlie conservation or harvesting management. They also have an international perspective, an understanding of the relationships between New Zealand's fauna and flora and that of our neighbours in Australasia and the Pacific; and an understanding of the migratory cycles of many of the bird species that breed or winter here.

In the preparation of this submission, four regional meetings were convened by the Society, in Auckland, Wellington, Christchurch and Dunedin. Forty-seven members attended these meetings and others supplied further material. The reports of these meetings have been integrated into this submission, which has thus actively involved more than 10% of the Society's membership.

This submission is in three parts. The first has comments on the discussion paper itself, often of a clarifying nature. The second addresses the issues of harvesting. It emphasises *ecological aspects* relevant to proposals for the joint management of natural resources. It was felt more useful to offer members' expertise on these matters, rather than advocate one specific management option. At the outset, however, it is important to caution on the critically-stressed

nature of many of New Zealand's species and ecosystems; and also to point out the immense scientific, as well as heritage value of the off-shore island reserves, and the international concern for the continued maintenance of the largely pristine condition of some of the sub-Antarctic islands. These considerations imply that a very cautious approach be taken to *any* proposal to harvest species or further modify ecosystems. The final part of the submission is individual commentaries on the final draft, invited from two members of the Society who are Maori. These commentaries have been modified and are included in this issue as an article (Wright, Nugent and Parata, 1995).

Comments on the discussion paper

There is general acceptance by the Society that a partnership approach by the Crown and *iwi*¹ to the conservation and protection of the New Zealand environment and its fauna and flora is required under the Treaty, and is very much to be applauded. The first imperative is to establish appropriate, mutually-agreed processes for the development of this partnership.

It is further generally accepted that such a partnership may include the harvest of some species, although only under some important constraints. The responsibility for the sustainability of harvest should, similarly, rest jointly with *iwi* and the Crown, and this would necessitate increased partnership in research as well.

The discussion paper aims to lead and focus debate "on issues touching upon the customary use by Maori of various native species". In its widest sense, this presumably means the use of any species occurring in New Zealand prior to European settlement, although by the use of the word "various" in the paper, it is suspected that only a limited number are in fact being considered.

A general weakness of the paper is that there is too little description of what is being proposed. There is much about the bureaucracy of implementation, but little of what is to be achieved, or what Maori and Crown involvement would be. It is not at all clear from the paper how a partnership of this sort would, in fact, work in practice. This needs to be sorted out quite quickly so that informed discussion might take place.

The discussion paper overall is rather meagre in its definitions. There is no discussion of what species are to be considered for harvest. In its widest

sense (which is not excluded in the paper), wildlife use could include all species for all purposes except direct commercial or profit-making uses. But exchange, gifting and trading (section 6.6) are not excluded - and these grade imperceptibly into purely commercial systems.

It is not possible, from the document, to see what would be involved in these proposals. "Customary use" and "traditional use" are not defined, nor is there any discussion of what is meant by "spiritual and traditional purposes". One does not know, therefore, whether there is intended to be a major shift in the way protected and endangered species are to be managed, or whether only a few species would have their status changed. Indeed, what would be the status of the presently protected species? Would their status differ between conservation estate and other land? The Society believes that failure to clarify this area has been responsible for much of the adverse reaction to the discussion paper.

Any harvesting programme must be sustainable (see the New Zealand Ecological Society "Statement on Sustainability" which was enclosed with Newsletter 61, March 1991, associated with an article by Paul Blaschke entitled "Sustainability and resource management - an update"). The discussion paper uses a definition of sustainability from the Worldwatch Institute. The appropriate one, having legal standing in New Zealand, is that of the Resource Management Act 1991, in which "sustainable management" means:

- "managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural wellbeing and for their health and safety while-
- (a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
 - (b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
 - (c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment."

The safeguards listed in clauses (a) and (c) will be of major significance for those setting up protocols for harvesting wildlife.

Comments on harvesting

Ecological aspects

New Zealand is in a unique position in relation to world interest in its fauna and flora. Together with the Hawaiian Islands, Madagascar and New

¹ *iwi* is a Maori term referring to either the tribal group or to the Maori peoples as a whole (Ed.).

Caledonia, it is considered to demonstrate one of the most remarkable examples of island and continental evolution, where Gondwanic and later-arriving species established an extraordinary fauna and flora in the absence of land mammals. For example, Jared Diamond, a notable biogeographer, in summarising the importance of New Zealand for conservation and science, has written: "All these features make New Zealand one of the world's biological prizes" (Diamond, 1990).

In the eyes of scientists and conservationists, the New Zealand community and its administrators carry a major responsibility to ensure that this evolutionary phenomenon is preserved. In his paper, Diamond was referring especially to the evolution on land, to the forest and mountain plants and animals. New Zealand also forms part of the range of a remarkable variety of seabirds, most notably petrels (Order Procellariiformes) and penguins (Order Spheniscidae). Even more than for our forest and bush species, these are considered part of the world's heritage, for which New Zealand has stewardship. Many of these species are migratory, and occur in the New Zealand region for only a portion of their annual cycle when breeding. Conversely, New Zealand also hosts large numbers of a range of wading bird species (Order Charadriiformes), which breed in the Northern Hemisphere and over-winter on our estuaries and shorelines. It is doubtful that New Zealand can really claim these as part of its exclusive indigenous fauna, and manage these independently of international considerations, including the harvesting and other human impacts suffered by them away from New Zealand.

Because of these international obligations and responsibilities, whatever is decided about harvesting will be of great interest and concern to an international audience. It would be wise to make any changes in management carefully and with full consultation with international conservation and wildlife interests. International protest would not be in our best interests, but could certainly be provoked through publication of accounts of harvesting seabirds, wading birds or marine mammals. These concerns are not to suggest that such international claims should have legal precedence over the Treaty of Waitangi or other New Zealand legislation, but they must be considered carefully when considering management implications of partnership and other concepts (e.g., rangatiratanga¹) explicit in the Treaty.

¹ Rangatiratanga is a Maori term meaning the right to self governance or the right to exercise authority over natural, physical, cultural and spiritual resources and other taonga [treasures]. (Ed.).

The requirements of habitat/ecosystem restoration and enhancement

The principal, over-riding requirement for New Zealand conservation at present is the restoration and enhancement of its habitat and ecosystem diversity: the replenishment of its lowland forests and wetlands, the restoration of its estuaries and coastlines, the maintenance and retention of indigenous tussock habitat.

The principal focus of debate, therefore, should be on how best to enhance and sustainably manage the New Zealand flora and fauna; and how best the partnership role of Maori and other groups in this process can be developed. Within this broad objective, provisions for customary harvesting are simply one of the options for the management of selected species.

Any document arising from the discussion process should emphasise ecosystems and habitats, not the individual species, as the focus of management.

Comments on harvesting

There is a wide range of species which might be harvested, occurring in a diversity of habitats and variably across a wide geographic area. In addition, many occur across a wide range of land titles, from private land through to National Parks and totally-protected islands. There needs to be debate both about species, and about places where harvesting might occur.

However wide this diversity, the general rules of sustainable harvesting, whatever its purpose, are universal and quite simple. In a farmed or cultivated population under good conditions, or occasionally a flourishing natural population, the emphasis of management can simply be "to harvest the population at the same rate as it seeks to increase". Hence, a population increasing at 20% per year can be harvested at around 20% per year. That proportion of the population can be taken each year, and year after year (Caughley and Sinclair, 1994, p. 8). But harvesting can only occur from flourishing populations. Few such populations occur at the present time among New Zealand's wildlife species, and most habitats are depauperate, their diversity falling and their species abundance declining.

The questions posed for the management of harvesting, or even for determining feasibility, are quite simple. Is the population viable? Is it increasing, static or declining? How variable are the numbers in different seasons?

However, determining population abundance and change is far from simple. Populations vary naturally over time and, even under the best

conditions, even the most basic figures for abundance and density, breeding success, recruitment and mortality take some time to determine. One of the first things to be done would be to establish the geographic boundary of the target population, which may or may not coincide with any administrative border.

If sustainable management is to be based on scientific evaluation, and this will generally take a fair amount of time, can anything be done to speed up the investigations so that there is not a long delay before harvesting might be attempted? There are, in fact, two things that could be done to speed the process of establishing customary harvesting regimes.

Firstly, any harvesting should be only one part of the overall management of habitats and ecosystems in the region. It should take place within a programme of habitat restoration. As the populations increase, so harvesting may occur (see below). This would, in some circumstances, place customary harvesting on much the same footing as game management of introduced and a few native species. The same management needs of pest and predator control and of habitat enhancement would apply. Effective and sustained pest/weed control in the managed ecosystem would generally be a precondition of harvesting. One begins to set out consciously to “farm” or “cultivate” the native species to meet both conservation and harvesting criteria.

Secondly, all harvesting should be done as *ecological experiments*, in which Maori and scientists work together to determine and measure impact and population change. Control areas which are left unmodified and unharvested, and which would also act as refuges and as places from which species might disperse, would need to be established for comparison and to validate the measured results of harvesting. Only through this scientific process could the long-term sustainability of the harvesting levels be assured.

From this study, *starting rules* (the conditions under which harvesting might begin) and *stopping rules* (when complete protection is again needed) can be established and tested. The Society believes that the common fishing industry model of “fishing down” a population to a lower level, and then trying to maintain that level, is totally inappropriate for any harvest of native species. All programmes (and there will need to be many throughout the different regions and islands of New Zealand) must be preceded by a risk analysis, and the “precautionary principle” which requires that very conservative management is implemented in the absence of much history or understanding, will need to be followed.

Are there any examples of successful programmes?

There are no scientifically-verified examples of successful (i.e. sustainable) programmes of customary harvesting in New Zealand among birds or marine mammals. Indeed, there is too little information on such programmes anywhere to reach categorical assurance about their sustainability. Although there are programmes in New Zealand and in the Pacific claimed to be of a sustainable nature, none has been subject to scientific appraisal.

The recent collaborative research programme between ecologists of the University of Otago and Rakiura Maori to study the titi (*Puffinus griseus* Gmelin) harvest will, in time, provide the first scientific account of this long-standing practice.

It is often much easier to establish farming systems for plants (especially relatively short-lived and vegetatively-reproducing ones) than native animal species. This is well-exemplified by the success of trials carried out by the Forest Research Institute, Rotorua, to enhance the growth of fibre plants, including pingao (*Desmoschoenus spiralis* (A. Rich.) Hook. f.) and to establish plantations. Such success contrasts with the difficulty encountered in managing fisheries, or of simply ensuring the survival of bird species in forests.

Although it is easy to point to the successful management of the introduced game species as a model for the management of native ones, this is a misleading comparison. Few native species flourish as aggressively as the introduced ones in New Zealand’s modified environment.

One must be cautious as well about the success of a venture measured simply as being “sustainable”. Any harvesting commencing in New Zealand would begin after a long history of population decline. At what level should the managed population be sustained? At current levels? At historic levels? This will need to be decided. There is a great difference in the survival status of species and habitats where apparent sustainability is measured by the continuing harvest of a few specimens a year compared with one of thousands. The first regime indicates a population and ecosystem at high risk; the second, a viable one with good long-term survival prognosis.

National and regional policy

The New Zealand fauna and flora is too diverse and too variable in its conservation needs to be covered by a single national policy for each species. There would need to be a national policy covering the broad principles of harvesting, but each region should have the authority to manage its estate within these guidelines. It would be wrong, for example, to

set national limits for local sedentary species; their abundance and survival status would vary too much among regions for that to be sensible. In some regions a species might be common, in others at the very limits of survival.

On the other hand, it is difficult to envisage individual iwi-based management of wide-ranging or migratory species. These will need to be managed at least at regional level and, in contrast to sedentary forms, probably through national guidelines. It will take some time to sort out the local harvest regimes for such species.

Our concern is for who will undertake the assessments for harvesting and who will develop the harvesting programmes, and retain the over-riding authority for their execution. The Society believes that the Crown must retain this responsibility. It is the only authority able to safeguard New Zealand's national interest in heritage protection and to meet New Zealand's international obligations for wildlife conservation. We recognise that this responsibility implies some tension with iwi rights under Article 2 of the Treaty of Waitangi, but agree with the New Zealand Conservation Authority analysis (section 3.1) that "this Crown right is restrained, but not blocked by Article 2."

Resources needed

Successful partnership in the management of the New Zealand conservation estate and wildlife will be costly and will require significant commitment from all parties. Each of the local or regional committees will need to be funded and supported. Their recommendations will need evaluation and approval. For the assurance of all stakeholders, both nationally and internationally, there will need to be, in addition, some quite major research and monitoring programmes. These programmes should have members from both Maori and Crown. All of these initiatives will need funding and staff.

The Society would be very concerned if resources (both staff and funding), at present desperately stretched in survival research on endangered species or in the inventory of our wildlife, were diverted in a "crash" programme to set up harvesting regimes. Either additional resources should be made available, or any further partnership and harvesting initiatives would need to be phased-in over a reasonable interval.

The Society is particularly concerned to clarify the role and status of committees (sections 6.4 and 6.5) in determining access to habitats and species for scientists, in making decisions on the availability of materials and specimens needed for science, and in giving approval to carry out research. At the least, a requirement to obtain approval from such committees

simply adds to the impediments to undertaking research; tying up resources, costing funds and delaying work. At worst, it has the potential to control the sort of science being undertaken in New Zealand, and the places where work can be carried out. Also, Conservation Boards are already involved in this way. What will their role be in the future?

Administrative constraints

Although there are constraints to customary harvesting in recent international conventions and in national legislature, some of these constraints may be overcome provided that harvesting is carried out within an overall framework of habitat enhancement and restoration, is paralleled by setting up reserves, and is sustainable. It is noted, for example, that the Convention on Biological Diversity (1992) in Rio de Janeiro, the international agreement most relevant to decisions on wildlife management, expressly permits use. The objectives of this convention appearing in Article 1 include the "conservation of biological diversity, the sustainable use of its components ..."; but Article 8 (*in-situ* conservation) requires New Zealand, as a member nation, to "establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity". Although "use" is permitted, it is to be balanced with protection, and with the setting aside of protected areas. This requirement indicates that New Zealand will need to retain and protect some, at least, of its currently reserved areas, and exclude harvesting from them.

There are constraints to harvesting and management apparent also in the RAMSAR Convention (Wetlands of International Importance Especially of Waterfowl Habitat) and in the Washington Convention (Protection of migratory birds) of 1916.

Within New Zealand legislature the Wildlife Act (1953) would need amendment, at least to the species' listings within its schedules, and major change would be required to the Marine Mammals Protection Act (1978) before exploitation of these species could be contemplated. Many members of the Society believe that current conservation legislation, such as the Wildlife Act and the Plants Act (1970), is inadequate for modern conservation management. These Acts do not incorporate sustainability principles and have inadequate enforcement and penalty provisions.

Conclusion

The Society has found the proposals outlined in the discussion paper to be of great interest. Overall,

it is in favour of any partnership proposal that works to enhance the natural environment in New Zealand. If this can be achieved through the option of establishing the principle of sustained harvesting for customary and traditional purposes in a framework of partnership in environmental management, this is to be applauded. There is clearly a positive gain from any such proposals that lead to the involvement of Maori in the protection and restoration of habitats.

The Society cautions, however, that it is not easy to establish and sustain successful harvesting regimes. These programmes will require considerably increased scientific and management resources from the Crown, and major commitment from all parties. Moreover, any regimes involving our more spectacular or endangered species, or having the potential to impact on them through disturbance of habitats, will certainly provoke international concern. In reality, only a few species are likely to be able to withstand harvesting in the short to medium-term.

References

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