



AWMS POSITION STATEMENT Commercial Harvesting of Macropods

Background

One of the things lacking, usually, in discussions about kangaroo management is an identification of specific rather than general management goals. The goals are usually identified as "damage mitigation", or "sustained yield harvesting" or maintenance of species across their ranges". But what are the target densities? Do we wish to maintain the status quo, with, say, long-term average populations at present levels? Do we wish to reduce numbers to some level thought to be close to whatever the perception may be of what densities were at the time of European arrival?

The trouble is, of course, that the answers to these questions depend upon who the "we" are. A grazier, therefore, may wish to identify very low densities as a target, a conservation-minded person a higher target or, perhaps, a "hands off, let nature take its course" policy.

The view is taken in this position statement that the majority of AWMS members are likely to support a biocentric ("conservation") ethic, rather than an anthropocentric or animal rights ethic.

But a difficulty remains in determining appropriate target densities, in that it depends upon the extent to which kangaroos are a pest or a resource (actual and potential), or a mix of both. Perceptions contribute significantly to value judgments, and the notion that kangaroos are pests is widespread and, in many quarters, taken as a starting premise on which kangaroo management decisions or recommendations are based. The anthropocentric view that conventional pastoral and agricultural activities constitute the only legitimate use of the countryside, and that kangaroos are acceptable only as long as they are "controlled", is very widespread. Hence, kangaroo "management" is still usually synonymous with pest control, even after all Australian governments have endorsed policies which formally recognise kangaroos as a resource.

The origins of the present kangaroo industry trace to rural support for it as self-funding pest control. Present harvests are typically 10-20% per annum, of conservatively estimated populations. It seems to be accepted that such harvests lower populations by about 30-40% compared with an unharvested population, yet sections of the rural community perceive that kangaroo harvesting fails the pest management task and seeks higher quotas (e.g. Wilson, 1996). The present harvest quotas are thought to be not far below maximum sustainable yields. Wildlife managers continually emphasise the need for harvests to be set conservatively, and not at maximum yields. However, we also have regional situations where annual offtakes may be well above the maximum sustainable yield and where immigration is a very significant factor in kangaroo demography (Pople, 1996).

On present trends, we can expect intensified pressure to increase the quotas for better pest control, because quotas are being taken more frequently than in the past because of higher demands for the products. Harvesting at rates above the maximum sustainable yield, on a broad scale, could further lower kangaroo populations very considerably. The red kangaroo population in Queensland provides an example; the quotas are taken every year and every year there is an outcry when the season is closed, leaving a lot of industry capacity unfilled and a lot of frustration among graziers. Harvest-induced reductions in kangaroos, along with killing under destruction permits, are certainly seen as desirable by the grazing industry.

But if kangaroo industry economics were to improve to the point where continuing harvests above the maximum sustainable yield were possible, and quotas were increased, lowering populations as graziers wish (perhaps even to 15% of present levels, which is the figure talked about as being desirable; but see below), then what of the future? Firstly, the decrease in the populations would be mirrored by a downturn in the quotas and a consequent downturn in the size of the industry, to the detriment of the economics of the many inland jobs and towns which are kangaroo-dependant. The biggest players in the industry have very large investments in processing and tanning works and these would fold. The industry would probably collapse or go into a boom-bust cycle with a long period. It is far from certain, even, that the grazing community would be better off (see below) and, in the long term, what management activity would hold kangaroo populations at the levels graziers desire, after the collapse of the industry? That part of the sheep industry which is in the sheep rangelands is generally thought now to be both ecologically and economically unsustainable in the long term. There is no data which shows that removal of kangaroos will change that situation. Even at present values, kangaroo products contribute significantly to the economies of towns in the rangelands. Management of kangaroos to low numbers, which would jeopardise both the future of the industry and, perhaps, compromise kangaroo conservation (see below), should clearly be undertaken only after great care and deliberation about its implications.

Secondly, if there were only a small kangaroo industry, or none at all, it is likely that many graziers would turn to other means of kangaroo control. Various techniques are under consideration for development or further elaboration, such as self-harvesting systems (which employ one-way gates in a fence surrounding a water trough), or the use of Finlayson troughs (which, through electrification, prevent kangaroos from drinking) and contraceptive baits. Implementation of these mechanisms would be very expensive and it is difficult to imagine them being successful except in comparatively small areas. However, human ingenuity is not to be underestimated, and very successful, cheap control measures may be discovered and implemented.

So, significant reductions in kangaroo numbers could probably be achieved by a combination of an unsustainably high volume kangaroo industry in the first place, followed by the implementation of deliberate, sustained pest control. This would be a very attractive proposition to many people in the sheep (and goat) industry, and may be to some AWMS members as well.

However, if the goal for kangaroo management is to manage kangaroo populations at a much lower level, there are not only implications for the future of the kangaroo industry (see above), but conservation implications as well. With the unpredictable climates typical of most of arid and semi-arid Australia, it is likely that significant reductions in kangaroo populations would lead to their no longer being found throughout their present ranges. Recent work on red kangaroos (Timmers, unpublished, cited in Grigg, 1996) has modeled likely risks of extinction (without immigration) following different reductions of fecundity under a range of rainfall regimes. In the Longreach area, for example, the likelihood of extinction increases sharply beyond a reduction in fecundity of greater than about 20%. If the viability of kangaroo populations even in prime habitat, like the Longreach area, becomes reliant on periodic immigration from surrounding areas, we could have a quite fragile situation at high harvest rates. There is a widely held assumption that reduction in kangaroos will lead to a useful reduction in "grazing pressure", which could translate into either a long term benefit for rangeland vegetation or increased sheep (or cattle, or goat) production? Work by Allan Wilson and Grant Norbury tends to support the prevailing view

that sheep graziers should continue to regard kangaroos as pests. On the other hand, Glen Edwards' work and, later, Steve McLeod's, at Fowler's Gap suggests otherwise and, further, Steve has re-analysed Allan's data for a different interpretation. All of these studies have been comparatively short term, and there is a tendency to underestimate the time course for a response by a piece of rangeland to a treatment. The history of the enclosure at Koonamore, S.A., from 1925, shows how important long term studies are.

AWMS members will be aware of the need for more, careful research on the comparative contribution to rangeland degradation by various herbivores. The present data are, at best, equivocal.

If there were to be a national policy which endorsed widespread reduction and control of kangaroos, then the need for it, and the potential value to be gained from it, should be resting on a much firmer scientific base than that which exists at present. An important part of any position statement by AWMS should be the identification of a need for research into this question.

Therefore, pest control management of kangaroos down to low levels is of unproven and questionable value as an effective mechanism to increase productivity by domestic stock or reduce total grazing pressure, and may be in serious conflict with the conservation goals, identified in all of the States' management programs, of maintaining viable populations throughout their present ranges. Long-term control of kangaroo populations to low levels by an industry is not a viable option because the existence of a significant industry depends upon kangaroos remaining numerous. The sheep industry in the sheep rangelands is unlikely to be either ecologically or economically sustainable in the long term.

Thus, economic and conservation arguments both imply that the goal of kangaroo management should be to maintain kangaroo numbers somewhere near present levels, rather than to initiate management programs which have significant reductions as their goal, at least in the sheep rangelands where the largest numbers of kangaroos now occur.

The position paper which follows includes a plea for more research into some relevant questions, and identifies a long term goal in which rangeland conservation goals could become aligned with economic imperatives, i.e. a sustainable commercial use of wildlife, for conservation.

Definitions:

Kangaroos refers to the currently harvested species of the Family Macropodidae.

Sustainability is taken to mean the capacity for long-term commercial use without reducing the species geographic range, changing existing patterns of genetic variability, or radically altering community structure and function).

Based on the above, THE AUSTRALASIAN WILDLIFE MANAGEMENT SOCIETY: SUPPORTS the commercial use of those species of macropod which are now harvested, subject to adherence to an approved management program and the satisfaction of the other criteria identified in the AWMS position paper on the Commercial Use of Wildlife. The addition of

any other species should be undertaken only after careful consideration with respect to the same criteria. **In particular, AWMS RECOGNISES:**

1. The desirability of maintaining viable populations of all commercially harvested kangaroo species throughout their current ranges; That, in the interests of sustainable land use and the conservation of biological diversity, there is a need to reduce total grazing pressure in Australia's rangelands; That a substantial reduction in total grazing pressure by removal of kangaroos is limited by concerns about kangaroo conservation, while reduction of total grazing pressure by removal of domestic livestock is limited at present by economic factors; That kangaroo harvesting at present rates is perceived as having insufficient effect in reducing total grazing pressure in the sheep rangelands;
2. That harvests at non-sustainable rates would jeopardise the future of the kangaroo industry and, further, would be unacceptable to the conservation community because of the likelihood that present geographic ranges would contract;

and therefore RECOMMENDS:

1. Against the implementation of measures to bring about significant further reductions in kangaroo numbers in the sheep rangelands unless it can be shown by carefully executed, long-term research that significant ecological and economic benefits will follow. However, AWMS also recognises that there is a need for control of kangaroos in crop-growing areas; That AWMS urges the state and federal governments to make commitments to the support of the long-term future of the kangaroo industry, thus encouraging the development of markets which could lead to higher values of kangaroo products; That long-term research be undertaken to assess the extent of the competition between kangaroos, sheep, goats and, where appropriate, cattle, so that landholders have more information on which to base decisions about how they can operate in the most ecologically benign way possible; and
2. That there be an economic analysis of a range of possible grazing regimes, incorporating the results of research and development recommended in Points 2 and 3.

AWMS ALSO RECOGNISES:

1. That a reduction in total grazing pressure could be achieved more easily if the value of kangaroo products rose to the point where they could be seen by landholders as a valuable resource; and
2. The potential role of an increased-value kangaroo industry to help achieve that reduction, through providing landholders with a mechanism to maintain economic viability at reduced sheep numbers;

and therefore **SUPPORTS IN PRINCIPLE** the idea of achieving a conservation benefit from a government regulated, high value, sustainable kangaroo industry.

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