

## SETTING PRIORITIES FOR RESEARCH AND MANAGEMENT

The final plenary workshop session aimed to identify the key information requirements for effective management of spinifex desert. A further aim was to list the issues relating to conservation and to identify the management programmes that should be initiated in the near future.

### Research Priorities

#### 1. Biological Survey

Participants concluded that the desert biota was poorly known and that resource inventories were an immediate need. Biological surveys should be sensitive to the dynamism of arid environments and should provide data for a range of seasons rather than being once-off field studies.

#### 2. Exotic Predators

##### (a) Control Methods

Biological : new methods employing disease, parasitism and/or genetic manipulation are required for broad scale control.

Conventional : improved techniques for high intensity management areas.

##### (b) Ecology

Research into interaction between dingoes, foxes and cats and between these species and their prey is required for evaluation of the secondary effects of control programmes.

The impact of foxes, cats and rabbits on nature conservation values will require rigorous documentation if the public is to be re-assured of the benefit of genetically based control programmes currently under development.

#### 3. Other Exotics

##### (a) Control Methods

Rabbits : New or enhanced parasite and disease controls together with genetically based techniques.

Weeds : Techniques for controlling *Rumex* spp., *Cenchrus ciliaris* (Buffel) and *Cynodon dactylon* (Couch).

(b) Ecology

Impact of rabbit control on the distribution and abundance of exotic predators (foxes, cats), native predators (dingoes, Wedge-tailed Eagles) and native herbivores.

Ecology and environmental impact of camels, House Mouse and domestic stock.

4. Fire Ecology

"Mosaic theory" : The influence of patch burning on the maintenance of biological diversity and role in the decline of mammals was considered equivocal and in need of further testing.

Fire behaviour : Investigation of parameters in some habitats.

Investigation of fuel load / state assessment and prediction and the role of remote sensing.

Investigation of community response to varying conditions of season, rainfall and fire intensity.

Establishment of long-term experimental areas in which highly patchy and largely homogeneous fire ages are maintained separately in large (e.g. 100 km<sup>2</sup>) blocks to enable short and long-term testing of the "mosaic theory".

5. Re-introductions

(a) Experimental design : Various experimental designs are being used to examine techniques for re-introduction. These need rigorous documentation to enable methodologies to be evaluated and compared for their use with other species and under various habitat and regional conditions.

(b) Which areas : The choice of areas for re-introduction varies according to regional priorities and logistic circumstances.

(c) Which species : The choice of species also depended on regional priorities and logistic circumstances but it was recognised that economies of scale could be generated and more comprehensive data collected in multi-species programmes.

6. Ethno-ecology

The extensive ecological knowledge held by Aborigines and its gradual decline as old people died was recognised. The documentation of this information should be fostered whenever possible.

## Related Issues

### 1. Aborigines

Improved liaison with communities and the expansion of co-operative nature conservation programmes will benefit the conservation of spinifex deserts where Aborigines have substantial legal and / or traditional ownership.

### 2. Communication

Improved communication within and between agencies will assist in consolidating research and management programmes.

Communication of the successes, values and requirements of research and management to the government and agency hierarchy is needed to raise the profile and resourcing of nature conservation in the spinifex desert.

It is also essential to promote the deserts to the general public (Aboriginal and non-Aboriginal).

## Management Priorities

### 1. Issue

There will be continuing changes in the spinifex deserts due to

- . loss of species, reduction in species' ranges, and loss of biodiversity,
- . exploration for and extraction of, minerals and petroleum,
- . development of outstations and alternative land uses by Aborigines,
- . increasing tourism, and
- . potentially increasing pastoralism.

### 2. Action

Fire management can now be applied to protecting fire sensitive and restricted communities, and to ameliorate the impact of large scale wild fires.

Feral animals should be controlled in important conservation areas.

The participation of Aborigines in the planning and implementation of conservation programmes needs developing.

Improved communication between research and management groups will assist the setting of priorities and the effective adoption of research results.

Management programmes need promotion with the public and relevant agencies to improve appreciation of, and the resourcing for, conservation in the spinifex deserts.