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AUSTRALIAN CONSERVATION FOUNDATION

POLICY

FIRE MANAGEMENT IN NATURAL AREAS

PREAMBLE

The Australian environment has always been influenced by fire and, together with other ecological factors such as climate, geology, topography and soil, it has helped to shape the distinctive native plant and animal communities we know today. Unlike those other factors, however, fire has been susceptible to manipulation, first by the Aborigines and later, and much more drastically, by the Europeans.

In the past 200 years the area of the continent covered by native vegetation, particularly forests, has been reduced to a fraction of its former extent by clearing for agricultural and urban development. An increasing proportion of these remaining natural areas is now being subjected to low-intensity prescribed burning for the purpose of protecting life and property from bushfire hazards. In addition, the frequency of unseasonal bushfires appears to have increased due to lack of care by landholders in allowing "burning off" fires to escape, other accidental causes, fire manipulation of natural communities by land managers, or simply as a result of arson.

In the New South Wales north coast area 95% of the many bushfires which occur each year are thought to originate from burning-off fires carelessly managed by graziers and

other property holders. In Tasmania about 15% of the rainforest area has been burnt in only the last 20 years. In some Western Australian forests, hazard reduction burning has been applied at between two and five times the frequency desirable for the survival of two of the larger native mammals. In Victoria, the unusual Leadbeaters possum has been shown to be dependent for its survival on occasional intense bushfires in the Mountain Ash forests, and could eventually disappear if fire management regimes applied by the Forests Commission are not changed to meet its requirements. Native shrubs such as Banksia ericifolia, which rely on seed for the establishment of new individuals, and which make up a significant part of the Sydney sandstone flora, are being routinely wiped out in some localities by hazard reduction burning at intervals less than the time taken for young seedlings to grow to maturity and to produce further seed.

The fire regimes which helped to shape Australia's unusual plant and animal life are being changed, with the result that permanent and perhaps irreversible changes in our native plant and animal communities may be occurring.

POLICY

1. The Australian Conservation Foundation believes:
   a) that the deliberate and accidental burning of natural areas in Australia is now so frequent that permanent and possibly irreversible changes in our native eco-systems may be resulting;
   b) that while much of the Australian flora is adapted to fire this does not necessarily mean that our plant life is dependent on fire occurring, or that it is "fire-loving";

c) that natural areas, and especially those within conservation reserves, should be managed with the objective of protecting the whole eco-system with its full diversity of species, age classes and structure, and that this objective should not be unduly compromised by either hazard reduction burning to protect development, or manipulation burning to achieve a narrow ecological management objective, or by too frequent or unseasonal fire from whatever cause.

2. Aboriginal Burning

Little is known about pre-historic fire regimes in Australia. It has been suggested that from the mid-Tertiary an increasingly arid climate encouraged the development of eucalypts, a more fire-prone vegetation, and an increase in fire. With the coming of man, fire probably became more frequent again.

In the early-settled areas of Australia, many of the basic facts about Aboriginal use of fire are unknown. There are no scientific records and few reliable data from the period of first contact. European man and his grazing animals quickly destroyed or blurred the evidence. In the circumstances, conclusions about the nature and effects of Aboriginal burning must mainly be limited to personal opinions, and among experts these differ widely.

However, it can be said that with so few facts and such lack of agreement, claims that modern hazard reduction burning is a continuation of Aboriginal land management, are spurious. It can also be said that hazard reduction burning is carried out for different reasons to Aboriginal burning and probably, for the most part, in different places.

Aboriginal practices, past and present, ought to be considered in determining the appropriate fire management for a natural area, but they should not necessarily dictate the nature and objectives of that management. In many parts of Australia there will be little point in trying to discover and emulate Aboriginal patterns of fire-lighting, whatever they may have been, as the present land use is so different as to make the revival of Aboriginal practices impossible or inappropriate.

3. Hazard Reduction Burning

The practice of burning extensive natural areas during the cooler months was developed by foresters to protect a few commercially valuable species of timber trees. By reducing the available fuel in the under-storey with a low-intensity burn, the hazard to the forests from intense and damaging summer bushfires is reduced to some degree. Hazard reduction burning is now practised by land managers throughout Australia as a cheap and readily available means of reducing any bushfire risk to life and property that might be posed by a natural area. The development of aeroburning, involving the dropping of incendiaries from aircraft, has enabled hazard reduction burning to be applied to very large areas. Aeroburning is not a very controlled or discriminating method of applying fire, and these problems do not commend its use in ~~very~~ significant natural areas, such as those reserved for conservation purposes.

Hazard reduction burning usually involves the imposition of a regime of fire quite different in season, intensity and frequency to the normal pattern of fire in the natural areas to which it is applied. The consequences of this change ~~is~~ often not well understood or even considered.

A growing body of scientific knowledge supports the view that hazard reduction burning can have significant, long-term effects on both native plants and animals by causing changes in plant communities. In addition, hazard reduction burning can be counter-productive, as more frequent fires can encourage a more flammable undergrowth in many cases, increasing the incidence of bushfires.

Hazard reduction burning of natural areas must be brought under the control of management plans which prescribe in detail what role, if any, applied fire will play in the management of each natural area and which ensure that where fire is used, it will be in keeping with objectives of maintaining the long-term viability and diversity of native plant and animal communities.

4. Manipulation Burning

Fire should only be applied in order to manipulate native eco-systems where its use is in accordance with clearly defined ecological management objectives determined for the area, and the burning is prescribed in the management plan in order to achieve those objectives. Manipulation burning for a specific eco-logical objective should not seriously compromise the general aims of maintaining diversity of structure, age classes and species, in native plant and animal communities. Burning to achieve ecological objectives should only be sanctioned where it is subject to rigorous standards in its theory and execution, and where the results are capable of scientific evaluation.

5. Bushfire and Land Management Authorities

Bushfire authorities in the States and Territories of Australia have to a large extent inherited and applied the fire management philosophies and practices of foresters. There has been a tendency to discount the scientific, recreational and aesthetic values of the natural areas they influence. The practice of hazard reduction burning now widely employed by Australian bushfire authorities, was originally developed by foresters as a means of reducing fire damage to commercial forests. In some States, such as New South Wales, the link between bushfire and forestry administrators is a very direct one, with Forestry Commission officers providing the executive function for bushfire prevention associations and much of the expert supervision in bushfires brigades.

Bushfire authorities should take steps to broaden and diversify the range of experience and management attitudes available to them by recruiting personnel from a variety of backgrounds, by stipulating training in the biological sciences as a relevant qualification, and by offering appropriate training in fire ecology, and related disciplines to their employed staff and the members of their bushfire volunteer forces.

Bushfire authorities, and land management authorities with responsibilities for controlling fire in natural areas, including national parks services, forestry agencies, Crown lands offices, water catchment authorities and local government, should be required under the provisions of their respective statutes to cooperate in:

a) obtaining adequate information on the fire ecology

of native plant and animal communities within their areas of responsibility;

b) carrying out, arranging, or initiating research by others, into the fire ecology of areas under their control, where the available information is not sufficient to enable an accurate determination of fire effects on a natural community; and

c) preparing detailed bushfire control plans and fire management plans for areas under their control.

6. Fire Management Plans

The role of fire in natural areas on public lands should be comprehensively addressed in statutory management plans prepared by each management authority in cooperation with bushfire authorities. Just as the general objectives for management for each area will vary through a spectrum of public lands ranging from nature reserves and national parks to state forests and local urban bushland reserves, so too will the role of fire management. However, as far as possible, fire management should not be allowed to compromise to any added extent any existing native eco-system, or to further limit diversity or to foreclose on the option of maintaining a continuing natural succession in any plant community.

Fire management plans should include the following features:

a) a planned fire regime for the area, determined by the general management objectives and a consideration of the native plant and animal communities present, the existing fire regimes intensity, frequency and seasonality, and the

relationship between the fire regime and the diversity of species, age classes and structure in each community;

b) consideration of a range of ways to minimise the incidence and escape of fire in each area and the selection of those approaches which will meet the objectives of the management plan and also protect the eco-system to the greatest extent possible;

c) consideration of a range of fire suppression measures and the adoption of those which meet the broad aims of the management plan while protecting the eco-system; and

d) provision for public consultation in drafting and public display of the management plan ~~and~~, with independent review of objections before its adoption.

7. Legislation

State and Territory laws for the control of bushfires should be amended to ensure better provision for the protection of the nature conservation, aesthetic and recreational values of natural areas which they affect. Legislation should provide for:

a) well-researched and prepared regional bushfire control plans with provision for public consultation, display and comment before their adoption;

b) integration of bushfire protection planning into general urban and regional planning schemes in order to minimise bushfire risks to life and property;

c) regional bushfire advisory committees with representation of nature conservation and recreational interests;

d) appropriate powers at state and local government

levels to require landholders to mitigate bushfire risks within their own property boundaries, as an alternative to measures which heavily compromise the nature conservation values of adjoining natural areas;

e) bushfire control and management objectives which balance the goal of long-term maintenance of native eco-systems with the goal of protecting life and property;

f) integration into fire management planning, especially in sensitive areas such as nature conservation and recreation reserves for wilderness areas, of environmental impact assessment for significant activities such as hazard reduction burning, fire trail construction, the establishment of fire breaks and the use of chemical suppressants;

g) public access to resource, financial, management and administrative information held by bushfire authorities.

8. Fire and Urban and Regional Planning

Protection of life and property by intelligent planning of new development is preferable to harming adjacent bushland areas with frequent applications of hazard reduction fire. Planning schemes should identify bushfire hazard zones within the scheme area and impose restrictions, and conditions on development approvals, appropriate to mitigate the risks present. Wherever possible, development should be excluded from areas where a reasonable level of bushfire protection cannot be provided without heavy or unacceptable environmental impacts. Urban expansion should be directed into areas which can be more readily fire

protected and serviced, or accommodated by consolidating existing urban areas.

Where development is to proceed in areas of significant bushfire hazard, it should do so on the basis of design features which will assist in reducing the ~~risk~~ RISK, such as perimeter roading, cleared and fuel reduced radiation zones surrounding housing, fire-resistant housing design and construction materials, and consolidation of the development to reduce the length of its hazard perimeter.

The aim of planning should be to encourage property holders to establish themselves at the interface between town and bush in such a way as to ensure their safety, maintain good aesthetic standards, and at the same time reduce to a minimum, or eliminate, the need to debilitate native plant and animal communities with hazard reduction burning or other intrusive control methods.

9. Public Education and Regulation

Bushfire and land management authorities, educational institutions and community organisations should cooperate in raising the level of public knowledge and awareness of the role of fire in the Australian environment. Rather than attempting to banish the bushfire risk in response to uninformed public demands, by such methods as hazard reduction burning, efforts should be made to change improve public attitudes and expectations.

In rural and urban fringe areas people should be educated to use fire more carefully and sparingly in order to give better protection to the remnant natural

areas remaining on private lands, and to reduce the number of damaging bushfires which originate from accidental "burning off" escapes and spread to natural areas on public lands.

While penalties for the unlawful or careless use of fire are adequate in most States, nowhere do they appear to be adequately enforced. Much more serious efforts should be made in the investigation of bushfires which cause damage to natural areas and in the apprehension of offenders.

10. Research

Controversy about fire in natural areas arises partly from lack of knowledge of the effects of fire on eco-systems and on individual plant and animal species. So far, research in this area has emphasised fire behaviour and fire effects on forest growth, and has provided only limited information of use in managing a wide range of native plant and animal life in natural areas.

Still modelling fire behaviour models

Fire research should be freed from its dominant concern with fire behaviour and impacts on crop trees and research funding should be increased so that work can be extended to cover every aspect of fire in native eco-systems, and to the development of more effective and environmentally benign fire-fighting methods than are presently available.

Funding for Australia's forestry schools should be increased to permit them to adequately cover fire science in their courses.

are these the appropriate places? Gives historical emphasis

Funding to the CSIRO for fire research projects should be increased and consideration should also be given to funding a separate, specialised fire research organisation at the Commonwealth level.

11. The Role of the Commonwealth

The power of the Commonwealth to involve itself in bushfire administration and management, or to legislate appropriately, is limited, this being primarily a State area of responsibility. However the Commonwealth does have a number of relevant powers as well as the ability to strongly influence the States by example.

Under its income tax laws the Commonwealth should offer incentives for expenditure on environmentally sensitive bushfire protection products, processes and measures. Sales tax laws should be used in the same way. Under banking legislation, lending on favourable terms should be encouraged to promote fire-resistant housing design and construction for bushfire hazard areas.

The Commonwealth should help to shape appropriate State fire management policies by means of agreements with State governments and through grants to the States on conditions.

The Commonwealth should also exert its influence on the direction and standards of bushfire management throughout Australia through its funding of relevant research by the CSIRO and other agencies.

In addition, the Commonwealth should use its direct

powers over important agencies such as the Defence Forces, and require them to conduct their fire management operations, and to manage lands under their control, in an environmentally sensitive manner which sets an example for the States to follow. In the Australian Capital Territory in particular, where extensive forested areas and mountainous country come under the direct control of Commonwealth Agencies, an opportunity exists for the Commonwealth to give a lead in fire management and control.

The Commonwealth should make use of the many powers and opportunities available to it to work towards a uniformly high standard of fire management in natural areas throughout Australia, and coordinate its expression in a national fire management policy to be developed in consultation with the States and Territories, and the public.