THE POLICY FRAMEWORK AND MANAGEMENT FOR FIRE PROTECTION IN SOUTH AUSTRALIAN CONSERVATION RESERVES

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SUMMARY

Reserve managers in South Australia have certain statutory obligations to manage bushfire problems in parks and reserves. These responsibilities are addressed through the development of policies and by management planning. A co-operative approach is taken on a regional scale to the problem of potential bushfire, but many perceived problems reflect unrelated adverse social reactions to the proclamation of parks and reserves in rural areas. It is therefore important to ensure protection programs address actual rather than perceived hazards.

POLICY APPROACH

Legislative Framework

Legislation applying to lands reserved for nature conservation in South Australia prescribes a list of objectives that must apply to those lands. These objectives are similar to those applying to other states and include:

(a) the preservation and management of wildlife (native plants and animals)

(b) the preservation of features of geographical natural or scenic interest; and

(c) the prevention of bushfires and other hazards (National Parks and Wildlife Act, 1972-81 Section 37a, c and g).

It is quite conceivable that many circumstances could arise where fire management works could adversely impact on the preservation of wildlife and natural features. The legislation therefore contains an inherent contradiction that park managers must address.

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The obligation of the Crown to pay regard to fire protection matters in lands under its control is further prescribed in the Country Fires Act. The relevant Minister has the duty to take reasonable steps to reduce the danger of the outbreak of fire on vested lands or the spread of fire through those lands (Country Fires Act, 1976 Section 7(1)).

Fire Management Policy

The first stage towards developing management practices that meet the statutory requirements (including contradictions) is the development of a policy. The South Australian National Parks and Wildlife Service policy on Fire Management and Protection includes a number of principles:

(a) recognition of the adaptation of natural communities to fire and the impracticality of any objective that aims to eliminate fire from natural areas;

(b) the environmental alteration following European settlement, the rarity of unaltered areas and the consequent need to preserve and manage what areas remain;

(c) the danger to the community from wild fire and the need to provide protection may change natural communities;

(d) recognition of the role of fuel reduction burning as a tool to reduce wild fire intensity in areas that have been identified as potential hazards; and

(e) recognition that fire protection is best achieved on a regional scale where the community can alleviate potential fire hazard through wise land use planning and that protection in areas of high fire hazard cannot be guaranteed (pp 25-29, Policies Document, Third Edition 1986, South Australian National Parks and Wildlife Service, Department of Environment and Planning).

The policy describes a number of fire management objectives:

(a) to protect life and assets, foster sound use planning over areas of fire hazard, maintain biological diversity, protect special natural features and prevent degradation of land from erosion and noxious pests;

(b) to prepare fire management plans for all fire-prone parks;

(c) to clearly identify the administrative arrangements for suppression operations in advance of a wild fire;

(d) to designate fuel reduced zones in parks in consultation with neighbours;

(e) to establish a priority for fire management works on areas of high visitor use and parks with adjacent assets of high financial value;

(f) to provide a proper supression infrastructure;

(g) to define co-operative arrangements with community groups and fire management and emergency services;

(h) to implement comprehensive training programs and research projects;

(i) to prescribe park closure during dangerous fire weather conditions; and

(j) to encourage land use planning in the vicinity of parks and implement zoning and other planning arrangements to mitigate against the potential for adverse impact of fire, particularly high intensity fire.

Fire Management Plans

The next stage in management practice is the preparation of fire protection plans. These plans are prepared for individual parks and cover park management objectives, the nature of the fire problem, fire management resources (human, plant, communication, supplies), fuel management strategies, wild fire prevention, and supression action plan.

These comprehensive plans are prepared in conjunction with State and local fire control and local government organisations. They are released in draft form for public input and comment and the final form is regularly updated by field staff.

FIRE AS A PROBLEM

Fire as a Social and Political Issue

Expenditure of increasingly limited resources on fire protection must inevitably be directed to those locations and circumstances where a fire hazard exists. For fire to be a potential problem to the community there must be tangible assets (lives and/or property) under threat. It follows that protection resources should be concentrated where possible wild fire has the potential to cause damage.

Conservation lands are perceived to pose major threats to rural and urban fringe communities. These lands are often timbered and rugged and have been previously found unsuitable for urban or agricultural use. As vacant crown land these areas do not carry the status as fire threats that they obtain following proclamation as national parks. Unlike productive forestry land the classification of land as national park has its social and political genesis in affluent urban populations. Consequently the proclamation of a national park is often strongly resented by rural communities, particularly if it is accompanied by restriction of local traditional rights for access to natural resources. The resentment often finds expression in strong and public criticism of protection policies and is often compounded by limited availability of park management resources following proclamation.

Timbered national parks are perceived as a threat to surrounding lands. However, statistics reveal the converse is the true situation. In South Australia during the fire seasons 1974 to 1986 inclusive, statistics of 387 fires on lands dedicated as Reserves or managed by National Parks and Wildlife Service,

revealed that 95 fires entered Reserves from adjoining properties, burning 155 164 hectares of Reserve; 20 fires, which started in Reserves, escaped into adjoining properties, burning 10 098 hectares of private property; and 272 fires which started in Reserves were contained within those Reserves, burning 124 713 hectares (Fire Statistics 1974-86, Protection Management Unit, South Australian National Parks and Wildlife Service).

For the park manager, addressing the problem of fire management should therefore often involve social and political issues rather than physical problems. If this is the case then the protection question should be approached in a social manner with emphasis on communication, community relationships and ready mutual co-operation where hazards exist. Often the resentment and distrust of conservation land use decisions takes decades to overcome.

The danger for the local park manager in these circumstances occurs where the manager undertakes visible protection works as a palliative to local resentment rather than addressing potential fire problems. A great deal of money can be wasted on useless burning programs and ill-considered trail construction and a great deal of needless damage done to the areas purported to be established for conservation purposes.

The "politics" of fire management in national parks is not confined to rural communities. There has been a number of forestry land use debates in Australia where the issue of fire management in national parks (or perceived lack of it) is used to reinforce a partisan position. The result of the consequent polarisation between productive forestry and nature conservation is repeatedly seen in public squabbling between forestry and park agencies in fire management forums, coronial inquiries and media debates.

My remarks are a consequence of interstate experience; South Australia is largely free of the debate I have alluded to. This may be because of the absence of tracts of productive native forest (and thus the opportunity for controversy) or history of a co-operative approach to management issues.

This Workshop clearly presents an opportunity to raise these and similar matters for constructive discussion and it is in this context that the matters are mentioned.

Fire as a Physical Issue

The legislative and policy framework (paragraph 1) reflects the reality that fires from conservation lands obey the laws of combustion physics and, given the right set of circumstances, will have the potential to threaten lives and property. This potential must be addressed in accordance with legislative and community expectations.

There are a number of fundamental aspects of fire as a physical issue that influences park management decisions:

(a) **intensity is the fire behaviour parameter that poses the hazard in the** majority of circumstances;

(b) potential fire intensity can be identified at individual sites by applying fire behaviour models to measured information;

(c) a hazard from potential fire intensity can be ameliorated by either reducing or modifying fuel availability or ensuring that the asset under threat is not at that site in the first instance;

(d) if a course of management actions do not effectively address identified hazard then that course of action should not be undertaken; and

(e) fire is often a problem on a regional scale and fire prevention or hazard amelioration should be addressed as a regional land use and planning issue rather than concentrating on a single land tenure.

Fire as a Conservation Issue

So little is known about the composition and dynamics of the various ecosystems within conserved lands that it is almost impossible to make any management judgements at all about the use of fire as a management tool or the impact of fire management programs on the environment. Judgements are often made on particular species or simple habitat issues.

In the absence of sound knowledge a good rule of thumb appears to be that interference with natural communities in conserved lands should be avoided unless there are sound reasons to the contrary. Many areas are in such a degraded state following European land use impact that a prolonged recovery phase is necessary to allow secondary successions to proceed towards a near natural condition. Sound reasons for interference would include fire management works (eg fuel reduction, road and break construction) in areas where such works would be effective in easing identified fire hazards.

The South Australian National Parks and Wildlife Service policy on controlled burning is as follows:

> "It is recognised that unplanned fires will continue to occur and will influence decisions on future management of the burnt areas. If it is necessary to provide some protection against the adverse impact of unplanned fire intensity by fuel reduction burning then the Service also needs to recognise that there may be changes to plant and animal communities as a direct result of the fuel reduction burning program.
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> The practice of 'burning off' or fuel reduction burning can be a valuable management tool to reduce the fuel available to a wild fire and thus the potential intensity of that fire. A fuel reduction burning program may therefore be undertaken in areas of potential fire intensity hazard that have been identified through land use planning and where such a program will achieve fuel reduction objectives. Broad areas of burning off achieves little practical protection and has a probable adverse environmental impact when undertaken on a frequent cycle. The most reliable protection for the community (and conservation reserves) can be achieved when land use planning recognises and makes allowance for fire hazards. Sound land use

planning should be followed by planning for fire protection works and emergency services. The protection from fire of development and human activity located in areas of high fire hazard cannot be guaranteed."

This statement needs to be viewed in the South Australian context. The fire management problem is generally focused onto two discreet situations:

(a) urban fringe forested parks in a hilly landscape with housing long established often in potentially dangerous fire circumstances;

(b) very large parks with mallee vegetation growing on partially consolidated sand dune systems.

The first circumstance requires intensive fire management practices in conjunction with local Government and Country Fire Services. This will often include controlled burning.

The second circumstance requires boundary fuel reduction and access works. The mallee vegetation systems do not accumulate fuels beyond eight to ten tonnes per hectare and with the potential instability of devegetated sand dunes little useful purpose would be gained with a broad scale controlled burning program. The boundary management policy is undertaken in conjunction with local landholders and the Country Fire Services and involves physical modification and fuel (slashing or rolling) rather than burning.

Fire as a Planning Issue

Whilst fuel management practices can be used to address problem areas it makes far more sense to not have the problem within fire hazardous locations in the first instance. In many areas the damage has already been done by previous inappropriate subdivision and development, but sound land-use planning and development control can ensure folly is avoided in the future. The South Australian Government has prepared a planning instrument under the State's planning framework whereby fire hazard is described by map and development is directed away from sites and areas with an unacceptably high level of bushfire hazard. The instrument applies to an area nominated as the Mount Lofty Ranges Bushfire Prone Policy Area (South Australian Supplementary Development Plan for the Mount Lofty Ranges Bushfire Prone Policy Area).

The prescribed development control principles include:

(a) precluding development or subdivision by location according to fire threat;

(b) describing suitable allotment size to the incorporation of protection measures;

(c) describing subdivision layout to accommodate safe fire fighting;

(d) identifying fire dangerous topographic circumstances to avoid dwelling construction;

(e) water supply, pumping and fitting requirements; and

(f) landscaping requirements and vegetation management.

The planning instrument is supported by Building Act Regulations which include prescriptions relating to defined local government areas, and floor, wall, window and roof materials and construction methods (Specification 16.1a of the South Australian Building Regulations 1973, as amended).

As most of the fire prone areas are in proximity to conservation reserves the National Parks and Wildlife Service has a vital interest in promoting sound land-use planning. This is particularly so if injurious and heavy-handed protection practices are to be minimised in protecting adjacent foolishly located buildings or subdivisions. The development of these planning policies was initiated by Commonwealth and State park agencies, and continues to be promoted in South Australia, New South Wales and the Australian Capital Territory.

CONCLUSION

Conservation managers have the same obligations as any other landholder in protecting the community to the greatest practicable degree against the adverse impact of potential wild fire. It is considered important to respond to actual fire hazards rather than perceived problems that may reflect unrelated social or professional dissatisfaction with nature conservation land use decisions. Actual fire hazards therefore need to be soundly identified on a regional scale and addressed as a regional problem, rather than isolated to particular land uses. In this way the most effective protection strategy and development zoning program can be developed on a planned basis in a co-operative manner covering the broader community.