Colong Foundation Policy 2007
Bush Fire management and Wilderness

Preamble

Bush fire management encompasses all bush fire policies and operations, including fire mitigation, ecological burning and fire suppression. Fire management in and affecting wilderness and other large bushland areas should protect wilderness values in a climate-changing world through the following principles and strategies.

Principles

i. Bush fire management (which by definition occurs in predominantly natural environments) is treated as one component of ecological management of bushland.

ii. The prime bush fire management objectives in and for wilderness are the minimisation of all biophysical impacts and the maintenance and restoration of wilderness integrity (natural values, natural processes and existing biodiversity).

iii. All fire management in wilderness is based upon principles of ecological sustainability and the best scientific knowledge.

iv. Fire management in wilderness is evidence-based but flexible and adaptive (recognising that knowledge is evolving and an ecological risk management approach may be necessary if knowledge is incomplete).

v. The principle performance criterion for fire management in wilderness is the maintenance of the majority of each vegetation community within its (scientifically determined) desirable limits of fire regime (frequency, intensity, timing and variability).

vi. The integrity of old growth forests, rainforests and other fire sensitive vegetation are protected from an increased risk of wildfire arising from inappropriate fire regimes and climate change.

Strategies

<u>Research</u>

vii. Increased research and analysis of:

- vegetation and fire history;
- fire ecology specific to landscapes and plant and animal communities;
- the effects and efficacy of fire management activities.

viii. Rapid and supported assimilation of knowledge into on-ground fire management policies and practice.

Fire mitigation

ix. Undertaking planned fires in wilderness areas for ecological reasons only, and protecting off-wilderness assets on off-wilderness lands.

x. Allowing wildfires in wilderness to burn in appropriate circumstances, e.g. expected fire area, intensity and timing is within ecologically-determined limits, risk to human life and property is manageable, suppression may cause more impact than the fire, fire origin is natural (lightning).

xi. Increased effort by state and local government to prevent urban expansion within the bushland interface adjoining a wilderness area (as these are often high fire danger areas).

Fire suppression

xii. Greatly increased investment in the development of expert fire strategists and pre-planned low impact fire control strategies (aimed at maintaining natural processes and biodiversity in the long term) for large bushland areas.

xiii. More concerted and consistent efforts to prevent illegal ignitions and to investigate and prosecute offenders, e.g. the permanent establishment of well-resourced bush fire arson investigation teams.

xiv. Increased efforts in early wildfire detection, particularly during bush-fire danger periods and in remote areas, to enable rapid detection, assessment and response.

xv. Rapid attack and close containment as the preferred suppression response to wildfires (when suppression is the objective – see clause xviii below), and ensuring that resources, capability and response times (for aerial suppression, Remote Area Fire Teams and other means) are adequate to support the highest possible success rate for such responses in remote bushland areas.

xvi. Ensuring that, if initial attack fails, ongoing ‘campaign’ fire suppression strategies affecting wilderness have as prime objectives the protection of natural values and the minimisation of environmental impacts, and that strategies are evidence-based on a detailed understanding of the ecology, history and behaviour of fire in the local landscape, as well as the successes and failures of past suppression efforts.

xvii. Ensuring that in large fire campaigns, knowledge, skills and resourcing are adequate to support ‘surgical’ and low-impact strategies (e.g. small tactical burns, use of natural containment lines and hand-tool lines, precision aerial burning and water-bombing) in preference to

strategies that may be higher impact and less precise (e.g large-scale backburns from hard containment lines).

xviii. Ensuring that 'let burn' is an approved and supported option for wildfires in wilderness under appropriate circumstances (see clause x above).

Physical intrusions in wilderness

xix. Using existing constructed containment lines within a wilderness for back burning only when they have been identified for such use in a pre-incident operations plan that has been subjected to public comment and review, and these lines are properly constructed to minimise damage to wilderness values.

xx. Avoiding the installation of containment lines by bulldozer during a section 44 bush fire emergency or other wildfires without prior consideration and approval in an open and transparent process.

xxi. Immediate closure and/or restoration of any new trails constructed or upgraded during fire suppression operations.

xxii. Removal and replacement of fire observation towers located in wilderness areas with other effective detection methods that do not impact upon wilderness values, such as more aerial surveillance.

Background

Wildfire frequency in eastern Australian wilderness areas has generally increased since white settlement and is likely to continue to do so due to climate change and continuing population growth. Wilderness and other large bushland areas can be a buffer against ecosystem shifts due to global climate change. Wilderness areas, covering just two per cent of New South Wales, may be the only places where natural ecological processes can be protected from intensive fire management for the protection of human life and property.

Fire management for wilderness should limit fire frequency in ways that mimic the pre-European and pre-global warming environment. This management would seek to restore and maintain wilderness integrity (natural processes and biodiversity).

Excessive burning can cause severe damage to rugged wilderness areas. When burnt, the ground cover that binds the soil is lost, leading to accelerated sheet erosion as the next rains strip away the thin soils and nutrients. Streams then fill with gravel and silt.

Too-frequent fires can also wipe out local wildlife populations, destroy the important and restricted old growth vegetation and lead to the replacement of existing vegetation communities with more fire-tolerant (and fire-prone) communities. Fire sensitive trees, such as *Eucalyptus oreades*, *E. deanei* or *E. dalrympleana*, or shrubby understorey species, such as Banksias and Allocasuarinas, can be lost from broad areas. Often it is these very oldest plants that provide most of the nesting and roosting places for birds, such as the Eastern Bristle-bird and a number of threatened microbat species. Fire that is too infrequent may have similar impacts for some communities.

The assertion that Australia's forest lands were once all some sort of grassland or open woodland and should be burnt more often to mirror Aboriginal burning practices is incorrect. Many types of forests and woodlands, particularly those containing long-lived shrubs, would not have been subject to frequent (less than ten-year) burns[(i)]. The evidence is in the biology of key species in this vegetation.

For some wilderness areas in NSW fire frequency is already well in excess of acceptable ecological limits (e.g. much of Wollemi). Many iconic wet old growth forests, such as the Coolangubra, greatly exceed the constructed ecological fire regime limits as currently conceived and the concept may not be appropriate for such forests. These forests are much more susceptible to fire than rainforests, and may need active protection from wildfire in a climate-changed world.

In these circumstances, effective fire-fighting in wilderness requires constant aerial and satellite surveillance (or alternatives) in bush fire danger periods to enable rapid detection and response. Such an approach is flexible and also eliminates the need for static fire observation towers in wilderness areas. To effectively tackle fires in remote areas while they are still small, more personnel need to be trained and supported as RAFT teams and as fire strategists. Although there has been much investment in recent years in road-based fire suppression capability, equivalent investment in remote area firefighting has been lacking.

Vigilant fire suppression in a climate-changed world would help to restore the natural variability of native vegetation age classes. It would also help to ensure rare old growth plant communities, including rainforests and tall eucalypt forests, and other fire sensitive species can be protected.

It is recognised, however, that even a well-resourced strategy of rapid aerial suppression backed up by RAFT is very unlikely to stop all intense wildfires. It is the ones that get away that can become very large wildfires and may prompt damaging control responses. Large wildfires, by definition, occur mostly in wilderness and other large bushland areas, which are mostly within national parks.

In the recent past most wildfires have burnt into parks, and not the other way around[(ii)]. For this reason broad-area planned burns of wilderness are a poor and ineffective way of controlling such external fires. In this context, additional fuel-reduction burns should be undertaken where they are most effective, and that is close to the assets being protected (eg. towns and rural districts[(iii)]). Further efforts to achieve an appropriate mosaic of patch burns on adjoining private land are necessary.

Letting wilderness burn may be a valid fire management strategy, when controlling the fire by burning from containment lines a long distance from the wildfire would be likely on balance to cause more area to be burnt, or when such a response may be ecologically appropriate.

Fire management of wilderness needs to be based on solid science and detailed ecological understanding at the local landscape level. Much more investment in both research and professional fire strategy skills is needed to ensure that fire management is responsive to the ecological needs of specific wilderness areas and ecological communities. There should be more comprehensive and rigorous mapping and analysis of fire areas, fire intensity and vegetation responses so that knowledge of

how particular communities function under different fire regimes is developed over time.

Decisions on the application of damaging suppression practices, such as construction of containment lines in wilderness areas and large-scale backburning, should be addressed in an open transparent manner during risk management planning, not during a fire crisis. In a fire emergency, bulldozers should not be allowed to scar the scenery and initiate erosion by cutting in poorly considered fire control lines on steep slopes. Hurriedly installed control lines often fail to contain a wildfire and cause more harm to the environment than either the wildfire or a well-designed and maintained fire trail. Use of constructed containment lines deep within a wilderness area to control wildfire can be dangerous to firefighters, as ground vehicle access is often slower than a hot wildfire and refuge areas and escape routes are limited.

Except for fire trails in perimeter areas, trails should be closed and rehabilitated to restore wilderness values, particularly those installed without due consideration during a fire emergency.

i
Benson and Redpath, 1997, 'Nature of pre-European native vegetation in Australia, in Cunninghamia, Vol. 5(2).

ii
Mr J P Henry, Deputy Fire Co-ordinator with the Bush Fire Council of NSW, 14-16 Sept, 1983, reported in the proceedings of the Ninth National Conference of the Australian Fire Protection Association.

iii
Park Watch, March 1994, Vol 76