



**Outcomes of the International Wildland Fire Summit
Sydney, Australia, 8 October 2003**

PART II

**Strategic Paper
Guiding Principles for Wildland Fire Management ¹**

Introduction

As the world's demand for resources to meet the needs of the global community increases forests, rangelands, farmlands and other ecosystems provide an important share of those resources. How we manage those resources now will affect their availability for future generations. Wildland fire is a critical factor in the health and sustainability of global vegetation.

This paper offers guiding principles for international cooperation in the management of wildland fires on forests and rangelands throughout the world.

It is hoped that these principles will act as a catalyst for discussions in many forums with the goal of leading to better methods for providing sustainable resources for the global community today and in the future.

These guiding principles are intended only as a guide. As such they will necessarily only be a starting point. They may need alteration for some developing countries and non-governmental organizations.

Preamble

The world as we know it today has been shaped by the forces of nature over millions of years. Fire is one of nature's powerful forces. It may be creative or destructive, or both at the same time in its environmental impacts. The occurrence, frequency and intensity of fire, both natural or human caused, or its exclusion either through natural or human intervention are determining factors for maintaining, enhancing, or reducing the health and sustainability of ecosystems.

Landowners, land managers and communities must be cognisant of the impacts of their actions and inactions on the environment when using fire. Since fire has such impacts on the potential for sustainable development, communities must take a generational view of the use of fire as a sustainable land management tool. Sustainable development requires communities to consider the collective impacts of their actions now and in the future. Sustainable fire management must certainly be a part of those considerations.

There is a need to integrate management of ecosystems and sustainable development as well as social objectives into fire management planning and practices. In many countries, wildland fires are symptoms of larger socio-political stresses. Agricultural practices in many countries are responsible for ignition of fires, lit for land clearing, weed control or regeneration.

It is critical that communities be engaged with the management of the fires they experience. Community involvement in sustainable land management is critical in all nations, especially where there is dependence on the ecosystem for livelihoods, and should determine how land managers and wildland fire agencies, address the management of fire consistent with environmental care and community standards. Meeting the community's expectations needs a carefully considered approach. Fire management interests need to balance the land

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management, fire management, social, cultural and environmental objectives. Those managing lands should recognize that fire adapted and fire sensitive ecosystems require policies, tactics and techniques that are ecosystem specific.

Framework considerations for balanced fire management include the Johannesburg Plan of Implementation and the Millennium Development Goals including Goal 1 (Eradicate extreme poverty and hunger), Goal 6 (Combat HIV/AIDS, malaria and other diseases) and Goal 7 (Ensure environmental sustainability).

Key existing multilateral agreements, include: the Convention on Biological Diversity in particular the target set down within the Plan of Implementation: “the achievement by 2010 of a significant reduction in the current rate of loss of biological diversity”, Ramsar, the World Heritage Convention, the UN Framework Convention to Combat Desertification, the UN Framework Convention on Climate Change and the Final Statement of the recent XII World Forestry Congress. There is a need to consistently communicate relevant wildland fire issues to the secretariats and participants of multilateral environmental agreements.

The following guiding principles for international collaboration of wildland fire management are presented as a basic framework for landowners, land managers and communities to consider in their approach to complimentary and integrated fire management.

International Cooperation in Wildland Fire Management Guiding Principles

International cooperation projects and initiatives should be based on the following considerations:

- Systematic monitoring, accurate reporting and accessible information archiving are integral components of effective fire management. Open, transparent sharing of data and information on fires, their extent and distribution, causes and impacts is fundamental to effective international cooperation;
- Initiatives should be appropriate to the culture, technology, environmental conditions, educational and economic circumstances of the recipient country, given the need for long-term sustainable outcomes;
- Developing countries are especially challenged by the management of fires because of their important links with land use practices, socio-economic and social issues and food production. Any management strategies must take account of the principles of poverty alleviation and sustainable development;
- Consideration must be given to the cultural context in-country, where, in many instances, fire is an established part of land management and agricultural practice, and where alternatives to the use of fire may be either unacceptable to the local community or unfeasible.
- Community-based fire management will usually form the basis of effective fire management programs at the community level, in both developed and developing countries. Some communities may benefit from a better understanding of the role and impact of fire on the environment, including situations involving the deliberate use of fire;
- Projects and programs should be undertaken within the context of a cooperation agreement or similar arrangement that makes clear the contributions, commitments and responsibilities of all those involved, especially in relation to accountability, command and control, and financial, human resource and other non-financial inputs of the project;
- Projects should, in most cases, seek to achieve sustainable institutional strengthening and capacity building within government agencies that are responsible for forest fire management. In appropriate circumstances this enhancement work will include Non-Government Organisations and the private sector;
- Wildland fire management projects and initiatives should have as one objective the delivery of sustainable outcomes for end users at the local community level, including improvement in the capacity of local communities to manage wildfires;
- Wherever practicable, fire suppression projects and initiatives should be undertaken using agreed international procedures and protocols which facilitate effective and safe cooperation and coordination on the fireground; and
- The outcomes and outputs of wildland fire projects and research should be made available to the international community to enhance advances in wildland fire management globally.

Wildland Wildfire Management Guiding Principles:

The following guiding principles for wildland fire management are presented as a basic framework for landowners, land managers and communities to consider in their approach to complimentary and integrated fire management undertaken for international collaboration.

General Guiding Principles

1. Land and resource management objectives, and the society's expectations that they reflect, should be compatible with the dynamics of the fire regime for which they apply and be consistent with community and firefighter safety considerations.
2. The management of wildland fire should be based upon the holistic approach of fire protection planning, prevention, suppression and rehabilitation.
3. All wildland fire management activities should be safe, cost effective and support sound natural resource management.

Consistent with a more inclusive style of fire management that incorporates the needs and expectations of local people, *fire management and suppression plans must incorporate and understand the needs and expectations of communities and local stakeholders*. Effective engagement of communities is essential. Also, fire managers in developed nations are increasingly held accountable for firefighter health and safety by agencies responsible for fire suppression. This will inevitably flow to emerging nations. This applies not only to the firefighters within their agency but also for all personnel engaged in suppression and support activities. At the same time many agencies find that they are not resourced at a level to meet peak fire loads. Hence, in recent times there has been a greater sharing of resources on the land where the wildfire is burning to assist the agency primarily responsible for fire suppression. To effectively manage such co-operative resources, agencies need to conduct fire suppression operations in accordance with a, *previously agreed command and control structure*. The response must satisfy all legal requirements, be thoroughly planned, safe, effective, cost efficient, and environmentally sensitive.

Fire management should consider:

- Having in place appropriate *fire protection plans* to deal with the inevitable occurrences of wildfire. Such plans must include an assessment of the threat to human life, property, forest, other wooded land and other land assets and values², and must consider these in conjunction with the management objectives for the area where fire suppression actions will be implemented;
- Undertaking actions of *fire prevention* to minimize, as far as practicable, the incidence and extent of unwanted fires (i.e. wildland fires of human origin both deliberate and accidental);
- Basing preparedness³ for fire suppression⁴ on *designated performance criteria* and reflecting the variable nature of fire danger⁵;
- Developing *early warning capability* of wildland fire danger;
- Insuring *prevention activities* are in place to reduce the hazards and potential losses from wildland fires;
- Stating *fire suppression objectives* clearly and insuring they are communicated;
- Insuring a *measured fire suppression response* that reflects the threat, the safety of firefighting personnel and the public, and the impact on the environment and costs;
- Formalizing a *single management structure* for all personnel;

² **Forest:** Land with tree crown cover of more than 10 percent and area of more than 0.5 hectares. The trees should be able to reach a minimum height of 5 meters at maturity. **Other wooded land:** Land either with a crown cover of 5-10 percent of trees able to reach a height of 5 meters at maturity; or a crown cover of more than 10 percent of trees not able to reach a height of 5 meters at maturity; or with shrub or bush cover of more than 10 percent. **Other land:** Land with less crown cover, tree height, or shrub cover as defined under "Other wooded land". Indication is desired if recurring wildfires affect "Other land" by inhibiting regeneration to the "Forest" and "Other wooded land" categories.

³ **Preparedness:** All activities undertaken in advance of wildfire occurrence to decrease wildfire area and severity and to ensure more effective fire suppression including (1) The state of being ready to cope with a potential fire situation (syn. readiness), and (2) Mental readiness (awareness) to recognize changes in fire danger and act promptly when action is appropriate (syn. readiness)

⁴ **Fire suppression** (= fire control, response): The activities connected with restricting the spread of wildfire controlling and extinguishing a fire following its detection and making it safe.

⁵ **Fire danger:** A general term used to express an assessment of both fixed and variable factors of the fire environment that determine the ease of ignition, rate of spread, difficulty of control, and fire impact; often expressed as an index.

- Insuring that *suitably trained, equipped, assessed, and accredited personnel* are appointed to appropriate positions within the management structure at all levels from the fireground up;
- Insuring *principles of environmental care* guide all preparedness and suppression activities;
- Basing *rehabilitation of disturbance* resulting from suppression works and rehabilitation activities, which are part of a broader post-fire recovery⁶ strategy, on sound principles of environmental care;
- Basing management planning on *scientific and field research*;
- *Cooperating and sharing* with other countries, agencies, jurisdictions and communities that face similar wildland fire management challenges;
- Striving for *consistent funding* that enables fire managers to adequately meet the goals of the guiding principles safely and efficiently.

Fuels Management Guiding Principles

Fuels management programs should be planned to provide for the protection of human life and property, by reducing the potential hazards associated with wildland fires while maintaining the environmental integrity of the landscape and preserving cultural resources. Reducing fuels through mechanical or physical means or through the use of prescribed burning⁷ to achieve management objectives must satisfy legal requirements, be thoroughly planned, and when conducted, be in accordance with clearly defined procedures providing for safe work practices and manageable fire behaviour; be environmentally sensitive; and have the outcomes monitored and recorded.

In conducting fuels management operations the following should be considered:

- Integrating fire prevention and land management aims to the maximum extent practicable for all fuels management within a given area;
- Balancing fuels treatment plans with the often competing objectives of the role of fire in the maintenance of biological diversity, the responses of different ecosystems to fire; natural patterns of succession, and the risk of wildland fire;
- Using or excluding prescribed fire based on scientific knowledge;
- Basing prescribed burning operations on clearly defined objectives and prescriptions, providing a safe working environment, and minimizing the risk of fire escape;
- Incorporating during the fuels management planning process, the principles of environmental care, in accordance with approved standards, prescriptions and guidelines;
- Community engagement of those who benefit from use of fire and who benefit from more control.

Environmental Care Guiding Principles

Fire management activities should be based upon good science and follow sound management principles. These activities should be planned and conducted in an environmentally sensitive manner taking into account:

- Fire regimes⁸ and fire management⁹ activities appropriate to maintain the vigour and diversity in populations of species and communities of the area's indigenous flora and fauna, particularly the ancient primary forest and wildlife fauna described in the UN Convention on Biodiversity;

⁶ **Recovery:** The post-fire phase where damaged assets are salvaged repaired or replaced; sites disturbed by fire control operations are rehabilitated; the natural response of the ecosystem is monitored, and managed if necessary; health and safety issues arising from the fire control operation are addressed; and lessons learned from the incident are incorporated into planning for future wildfire events.

⁷ **Prescribed burning:** The controlled application of fire under specified environmental conditions to a predetermined area and at the time, intensity and rate of spread required to attain planned resource management objectives.

⁸ **Fire regime:** The season, intensity and frequency of fire in a given area over a period of time.

⁹ **Fire management:** All activities associated with the management of fire-prone public land values, including the use of fire, to meet land management goals and objectives. It involves the strategic integration of such factors as knowledge of fire regimes, probable fire effects, values threatened, level of forest protection required, cost of fire related activities, and prescribed fire technology into multiple use planning, decision making, and daily activities to accomplish stated resource management objectives.

- Water quality and quantity being protected by measures which minimize the impact of fire management activities on streams, springs, soaks, swampy ground and bodies of standing water, and their physical, chemical, and biological quality;
- Soil being protected by measures which prevent inappropriate destruction of its physical and chemical properties or which promote stabilization of bare or disturbed earth following disturbance;
- Landscape values, geomorphologic features, cultural and historical sites being considered when planning operations;
- Indigenous flora and fauna being protected following wildfire suppression by measures which promote the re-establishment of the ecological processes existing prior to the wildfire;
- Avoid the possible introduction and spread of pest plants and animals, plant diseases, and insect pests; and
- Air quality being addressed by measures which balance the impacts of smoke generated by prescribed burning.

Conclusion

These guiding principles for international collaboration on fire management projects and activities are presented for consideration by countries and communities faced with managing wildland fire. In an increasingly complex global environment, they are presented with the knowledge that other countries and organisations are facing the issues of fire management. This set of principles has been prepared as a step in providing a clearer basis of engagement between those involved in fire management.

Many organisations, bodies, governments, agencies and institutions have undertaken analyses, documented expectations, prepared guidelines and created materials. For example the International Tropical Timber Organisations Guidelines for Fire Management in tropical forests, and the Guidelines on Fire Management in Temperate and Boreal Forests prepared by the FAO. The extent to which they have been shared, evaluated and adapted for adoption is limited. These efforts as well as those of others should be studied, compared, contrasted, and discussed. The guiding principles presented here are intended to enhance this process, so that those faced with the challenges of wildland fire will have a full spectrum of ideas and information to help in the development of approaches, processes and systems that best meet their needs.