Michigan
Society of American Foresters
*Growing better all the time*

# FIRE MANAGEMENT—A POSITION STATEMENT

## Introduction

Fire is a natural element of many natural ecosystems in Michigan, including forests, savannas, and prairies. These ecosystems have evolved with fire, and it plays an essential role in sustaining their viability and vigor. Land managers use prescribed fire to restore fire-adapted ecosystems and reduce fuels, but unplanned or uncontrolled fires—wildfires—can be destructive to ecosystems, to property, and even to human life. Fire management comprises the appropriate use of prescribed fire as well as the prevention and suppression of wildfires.

## Position

The Michigan Society of American Foresters (SAF) supports stable and adequate funding for wildfire suppression and ongoing training in fire management agencies and local fire departments. Programs that educate landowners and local governments of the danger of wildfire and methods for minimizing risk also are sorely needed, as are fuel reduction programs.

Michigan SAF also supports the use of prescribed fire under proper weather and fuel conditions to achieve clearly defined land management objectives. Prescribed fires must be conducted under conditions that minimize the potential health hazards and visibility effects of smoke. The benefits of prescribed fire also must be weighed against the risks of it escaping. A cadre of highly trained and experienced personnel is essential for proper implementation of prescribed fire, and Michigan SAF advocates recurring training of personnel in agencies and organizations doing prescribed burning.

*A position adopted by the Executive Committee of the Michigan Society of American Foresters on March 20, 2002, and revised and extended on May 30, 2007, which will expire after five years unless revised, extended, or withdrawn.*

*The Michigan Society of American Foresters is the scientific and educational association of professional foresters, including consultants, researchers, professors, students, and employees of public agencies and private firms. The Mission of SAF is to advance the science, technology, education, and practice of professional forestry to benefit current and future generations.*

## Background

Michigan's fire history has taken some extreme turns. During the millennia preceding the major Euroamerican settlement that began in the early 1800s, fires were a common occurrence in Michigan ecosystems, with Native People effectively using it as a land management practice. During the period of rampant forest exploitation that began in the mid 1800s, wildfires of catastrophic proportions—the effects of which can still be seen—burned back and forth across the Michigan landscape. By the 1920s little forest was left to burn. Eventually, fire prevention and suppression efforts improved so that fire was effectively excluded. The last decades of the 20th century witnessed a growing recognition by ecologists and foresters that fire was a natural part of ecosystems adapted to it and intentional prescribed fires were needed to reintroduce this potent disturbance agent.

Nationwide and in Michigan, the risk of catastrophic wildfires is high. Conifer forests—those dominated by species like pines, spruces, and firs—are at highest risk. Many of these forests have matured without the low-intensity maintenance fires that historically occurred, resulting in dense stands containing large fuel loads. Fires that ignite in such forests can quickly become raging conflagrations that are difficult and very expensive to suppress. It is likely that a warming of the climate will only accentuate this problem.

Another alarming trend is the dramatic rise in permanent or recreational homes in or near fire-prone ecosystems. This increasing rural population increases the probability that a wildfire will be ignited, as over 90% of Michigan wildfires are human-caused. People in forests also greatly complicate fire-fighting strategies as saving lives and structures becomes the highest priority for fire-fighter ranks already stretched thin.

**Issue**: The "wildland-urban interface" refers to areas where human communities and wild natural communities abut; the "wildland-urban intermix" occurs where human and wild communities intermingle (both abbreviated WUI). The interface and intermix present unique challenges for fire mangers in areas where the wild community is fire prone. Forests dominated by red and jack pines that occur in northern Michigan are particularly risky (Haight et al. 2004). Professional foresters can help to educate people living in high-risk WUI areas on the danger of wildfire, as well as on landscaping and building materials and designs that can mitigate fire danger. Local governments also need to be advised of potential wildfire risks when crafting zoning ordinances and building and insurance codes. The national Firewise program (http://www.firewise.org) and Michigan State University Extension (http://web2.msue.msu.edu/bulletins/intro.cfm) produce excellent materials and programs for educating people about wildfire risks and mitigation.

**Issue**: During the last few decades the accumulation of fuel to dangerous levels has occurred in many conifer forests, due principally to exclusion of the low-to moderate-intensity fires that once burned through them. Recent research has shown that these fire-prone Michigan ecosystems still burn more frequently than hardwood-dominated, fire-resistant ecosystems, but the frequency of fire is much lower than in pre-Euroamerican settlement times (Cleland et al. 2004). The federal Healthy Forests Restoration Act of 2003 and the Healthy Forests Initiative that grew out of it are designed to accelerate fuel-hazard-reduction activities, especially in the WUI. Thinning dense stands may be necessary before prescribed fire can be employed to maintain safe fuel levels. Forest managers need to be actively engaged in assessing fuel levels and implementing fuel-reduction treatments where necessary. Funding for these activities on both the state and federal level must increase and, in fact, investments in fuel reduction treatments could pay for themselves by lowering future wildfire suppression costs (Snider, Daugherty, and Wood 2006).

**Issue**: "Fire-dependent" Michigan ecosystem types, such as jack pine or paper birch, depend on fire for natural regeneration and forest type perpetuation. Endangered species, like the Kirtland's warbler and Karner blue butterfly, utilize specific habitats that historically were created by frequent fires. Certain stand characteristics that were historically common, such as the open, low-growing understory of mature red and white pine forests, were maintained by occasional surface fires. Numerous pests are controlled by fires that burn across the forest floor where these organisms complete part of their life cycle. Finally, the now-rare savannas and prairies of Michigan owe their very existence to regular fires. Only through implementation of regular prescribed burning by knowledgeable and experienced professionals can these species and ecosystems be maintained or restored to their historic condition.

**Issue**: Failing to allow professional flexibility in the use of prescribed fire as a management tool can adversely affect both forest values and citizen welfare. Land management agencies and industrial landowners must implement fire-management policies that include both fire suppression and prescribed fire. Exclusion of either will continue to bring unwanted consequences. Use of prescribed fire—as with any tool—has a negative side: prescribed fires occasionally escape and become wildfires, and they produce smoke which can be an annoyance and a health hazard. Professional fire managers and foresters need to build the regular implementation of prescribed fire into their long-range plans and seek adequate funding to carry them out. They also must exercise diligence and responsibility when carrying out fire plans.

## Final Discussion

The goal of modern fire management is to minimize fire's destructive effects while maximizing its long-term ecological and social benefits. This goal can be accomplished only by a combination of a high standard of professional expertise in both wildfire suppression and prescribed fire implementation, increased public awareness of fire's danger and benefits, and adequate local, state, and federal funding.

## References:


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