



Wildland Fire Management

A Position of the Society of American Foresters

Originally adopted by SAF in January 1989 and revised and renewed in April 2019. This position statement will expire in 2024, unless, after subsequent review, it is further extended by the SAF Board of Directors.

Purpose: Public and private forest landowners and managers across the Nation face growing challenges associated with wildfires: risks to investments, operations, workforce, neighboring communities, watersheds and future forest condition. Enhancing the wildland fire management system can reduce wildfire hazard/risk and improve forest conditions.

Scope: The wildland fire management system and relevant land management efforts that conserve the land, sustains communities, and protects responders and the public.

Position

The Society of American Foresters' (SAF) identifies four issues to be addressed in order to reduce average size and severity of wildfires and the resultant undesirable effects on our forests and society: (1) the pace and scale of land management activities, especially those related to hazardous fuels treatments, must be accelerated to restore fire-adapted forested landscapes; (2) fire management resources must be prepared and focused to respond quickly and safely to destructive fire events within the context that not all fires can or should be suppressed; (3) fire-adapted resilient communities should be actively promoted through cross-boundary coordination between individual homeowners, communities, and local, state, and federal landowner efforts; and (4) sufficient and stable state and federal firefighting budgets must be available to avoid disrupting other essential programs, especially wildfire preparedness activities.

Progress on these four issues will help achieve the vision of the National Cohesive Wildland Fire Management Strategy (2014) to:

Restore and Maintain Landscapes: Landscapes across all jurisdictions are resilient to fire-related disturbances in accordance with management objectives.

Fire-adapted Communities: Human populations and infrastructure can withstand a wildfire without loss of life and property.

Wildfire Response: All jurisdictions participate in making and implementing safe, effective, and efficient risk-based wildfire management decisions.

Our nation's forests and communities need land management and wildfire protection systems that are reliable, consistent, and cost effective while providing for public and firefighter safety. Fire plays an ecological role in nearly all forest and rangeland ecosystems, but the size and severity of wildfires that escape initial attack is increasing as is the impact on human communities. Those trends should be reversed.

Issue

The overarching wildland fire management issue in the United States is that; despite updates in equipment and policies, as well as increases in fire suppression expenditures, the trend continues toward larger wildfires that display uncontrollable fire behavior and uncharacteristically severe effects on our forest resources and human communities (Quadrennial Fire Review 2009). During the 1980s when much of our current land management philosophies and administrative structures were developed, the average annual area burned was 4.2 million acres (South 2018). Since 2000, that average has increased to 6.7 million acres annually, with most years recently exceeding 10 million acres annually (NIFC 2018).

The wildland fire management community has been extremely successful over the past several decades (Tidwell 2012), suppressing 95 to 98 percent of unwanted fires during the initial attack phase (i.e., before additional resources are required). However, more fires now escape initial attack and become large fires that increasingly demonstrate extreme fire behavior. These large fires result in increased loss of human lives and property, as well as increased risk to forest resources and associated human values. They drive significant increases in suppression costs that often outstrip annual budget allocations and require the transfer of funding from other areas to the suppression program. Increasing severity of large fires may augur a future where a small percentage of fires (2 to 5 percent) not successfully addressed by initial attack become dramatically more destructive and costly, potentially on a scale equivalent to other natural disasters like major hurricanes and earthquakes (Quadrennial Fire Review 2014). And, in a paradox, widespread successful suppression only sustains the hazardous amount and continuity of fuels on the landscape and the rate of its accumulation over time.

Background

Recent increases in large fires are driven by climate change and landscape fuels

The increased extent and intensity of wildfires are driven by longer fire seasons given climate warming combined with the unnatural forest fuel conditions on many public and private lands. Since 1980, the western US has been affected by a rapidly warming climate characterized by reduced snowpack, earlier springs with higher temperatures, longer fire seasons as a whole, and hotter droughts coinciding with more frequent periods of extreme fire weather (Moritz et al. 2018). Increased temperature has direct impacts on living and dead fuel moisture, and the

combustion of these fuels during a wildfire incident. It has indirect impacts on fire behavior through changes in the vegetation community.

Simultaneously with warming, decades of aggressive wildfire suppression activities coupled with more recent changes/reductions in active forest management have increased the volume and connectivity of fuels at the landscape scale. Fire scientists and land managers agree that widespread increases in the land area that is forested, increased fuel loading, and increased vertical and horizontal fuel continuity in many ecoregions and forest types have increased the likelihood of large forest fires and higher burn severities through increased likelihood of crown-fire initiation and spread. Since 2000, more than 47.6 million acres of forests also have been affected by bark beetles (USFS 2014a). These lands are potentially at greater risk of losing ecosystem services when they burn.

Changing our landscape and fire management paradigm

A focus on restoring resilient forests and thereby reducing wildfire risk across landscapes implies using all the tools of active forest management, including: timber sales, mechanical and chemical fuels treatments, prescribed fires and managed wildfires. The scale of this challenge is huge; however, with 300 million acres of western forests alone within which fuels have accumulated to the point where wildfires can burn across larger areas with more severe effects than ever before (ERI 2011). Fuels treatment projects (including prescribed burning) can reduce some unwanted fire effects in the near term, but resilience-based treatments are not being planned across ownerships nor implemented at the scales necessary to substantively improve landscape conditions. Therefore, wildfire itself will continue to do much of the fuel reduction treatments across our forested landscapes.

This future wildland fire reality speaks to a need to plan for large-scale fires, to use wildfire more commonly during the shoulder seasons, and to proactively prepare sensitive resources for wildfire. The Forest Service and other large landowners have unique opportunities to use wildfire extensively, particularly in large backcountry settings. However, wildfire will not be avoidable in the front country, so other landowners should be prepared. Industrial owners can manage fuels more aggressively during site preparation and early stand management to minimize their risks. Homeowners and communities can more aggressively manage their fuels in the wildland-urban interface. Substantial investment in mechanical treatments are needed in order to reduce fuels before reintroducing fire through prescribed burning (USFS 2018), and preferably years before a wildfire. Many fire-adapted forests have such high fire deficits that returning fire too soon or at too large of a scale could have damaging ecological effects, along with unacceptable consequences for local communities.

Fire-adapted human communities, the wildland-urban interface and human values

Protecting infrastructure, property and human lives requires that individuals and communities proactively prepare for wildfires when they live in fire-prone areas (ERI 2013), an important piece in our struggle to live with the reality of wildland fire. Communities must have adequate local fire suppression capacity to meet community protection needs (FireWise 2009). Structures and landscaping ought to be designed, constructed, retrofitted, and maintained in a manner that is

ignition resistant. Local codes (planning, zoning, building, fire prevention) may require such ignition-resistant home design and building materials, as well as safe evacuation routes. In addition, Community Wildfire Protection Plans can play an important role in identifying risk, prioritizing fuel treatments, designating evacuation routes and safe zones, and providing educational information to the local public (FireWise 2009).

Expansion of the “Wildland Urban Interface” (WUI) has exacerbated the wildfire management problem across the U.S. (Hammer, 2008). The costs of wildfire suppression activities are increasing largely due to ongoing WUI expansion and an expectation that those areas should be protected at all cost. The Government Accountability Office (GAO) has noted that structures adjacent to federal lands can significantly alter fire control strategies and raise costs because protecting structures commonly requires additional, special attention and because fire managers often rely on expensive aircraft to drop fire retardant on and around these structures (US GAO 2007). In a survey of Forest Service land managers, some estimated that 50 to 95 percent of firefighting costs were attributable to protection of private property (US OIG 2006).

As the size and intensity of wildland fires have increased, so has the exposure and associated impacts to vulnerable populations adversely impacted by wildland fire smoke and evacuations. Accordingly, the public health impacts of wildland fire smoke are taking on greater importance and merit the attention of all who have responsibility for land and air quality management decisions and wildland fire policy, who protect the health of the public and at-risk populations, and the stakeholders who are impacted by wildland fire policy. Wildfires are also associated with many other health and wellbeing costs including those associated with premature mortality (Johnston et al., 2012; Rappold et al., 2014), health care utilization, lost productivity, impacts on the quality of life (Jones, 2017b), compromised river and drinking water quality (Hohner et al., 2016; Bladon et al., 2014), and damage to critical infrastructure.

Communities benefit from proactive fuels management activities in the WUI and in ways well beyond reductions in risk to life and property. Targeted fuels management treatments also can improve forest condition and resilience to wildfire and other disturbances (i.e. protect scenery, watersheds and habitat) while providing a renewable consumer product with associated by-products (e.g. physical materials and co-generated energy) and multiple opportunities for businesses and workforces. And a recent report prepared for the Oregon Legislature stated “The difference between the cost of implementing restoration and conducting fire suppression in eastern Oregon represents a potential \$59.2 million annual savings for the USFS if 129,000 acres were left untreated and burned by wildfire each year. For every \$1 the USFS spends on forest restoration, the agency avoids a potential loss of \$1.45 (NFHR 2012).”

A workable funding framework for firefighting in the new age

Federal and state firefighting costs routinely exceed available funds, which are then borrowed or permanently taken from funds that would ordinarily support resource management activities (Moritz, et al., 2018). These fire suppression costs far exceed government expenditures for hazardous fuel reduction (including vegetation management), which is the primary mechanism to reduce large-fire severity and maintain or improve forest health. In 1995, fire made up 16 percent

of the Forest Service's annual appropriated budget, for the first time in 2015, more than 50 percent of the Forest Service's annual budget was dedicated to wildfire suppression. Along with this shift in resources, there has also been a corresponding shift in staff, with a 39 percent reduction in all non-fire personnel. Left unchecked, the share of the budget devoted to fire in 2025 could exceed 67 percent, equating to reductions of nearly \$700 million from non-fire programs compared to today's funding levels. By 2025 two out of every three dollars the Forest Service gets from Congress as part of its appropriated budget will be spent on fire programs (USFS 2015). Not only are annual suppression expenditures not sustainable, but vegetation management activities are falling further behind in addressing the problems associated with large wildfires.

The National Cohesive Wildland Fire Management Strategy (2014) was developed to coordinate activities across all lands regardless of ownership, and together with the Federal Land Assistance, Management and Enhancement (FLAME) Act created a funding mechanism to finance emergency wildfire suppression activities of federal agencies. Previously, money was transferred from other agency programs to pay for firefighting costs ("fire-borrowing"), which disrupted core agency functions including vegetation management, thereby further eroding efforts designed to reduce fire risk by reducing hazardous fuels. The FLAME Act of 2009 has not worked out as intended, and Congress authorized a funding fix in the Consolidated Appropriations Act of 2018. Starting in FY 2020, a total of \$2.25 billion of new budget authority will be available to USDA and USDI. The budget authority will increase by \$100 million each year ending up at \$2.95 billion in new budget authority by 2027. However, such funding may not be sufficient every year moving into an uncertain climatic future, so a workable funding framework will be required.

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