FLORIDA DIVISION – SOCIETY OF AMERICAN FORESTERS
POSITION STATEMENT
WILDLAND FIRE

Where prescribed fires or wild fires occur on sustainably managed forests, there is no net increase in atmospheric carbon dioxide (CO_2). In addition, fire plays a key role in many forest and range systems and is instrumental in promoting forest health and reducing the risk of catastrophic wildfires. Accordingly, Florida SAF supports laws and incentive programs that promote the use of prescribed fire in sustainably managed forests and opposes any new laws that impose restrictions on the uses of prescribed fire in sustainably managed forests.

Background

The 1992 United Nations Framework Convention on Climate Change (UNFCCC), ratified by the United States, pledges to limit sources of anthropogenic greenhouse gases, and to take steps to maintain carbon sinks. The 1997 Kyoto Protocol, amended to the UNFCCC, specifically mentions limiting forestry activities which produce greenhouse gases and eliminate carbon sinks. The Unities States *signed* this treaty, but did not *ratify* it, meaning that the United States is not bound by this document. The United States has, however pledged to reduce its CO_2 emissions by 7%.[2]

On April 2, 2007, the United States Supreme Court held that the Clean Air Act authorizes the United States Environmental Protection Agency (EPA) to regulate greenhouse gas emissions, including CO_2 emissions, in the event that EPA determines that such emissions contribute to climate change. Massachusetts v. Env't Prot. Agency, 127 S. Ct. 1438 (April 2, 2007). Furthermore, the Court also held that EPA may only avoid taking regulatory action with respect to greenhouse gas emissions if EPA determines that greenhouse gases do not contribute to climate change or if EPA provides a reasonable explanation as to why it can or will not exercise its discretion to determine whether gasses contribute to climate change. Id.

Much of the earth's stored CO_2 exists in forests, which serve as carbon sinks. It thus follows that burning forests results in the release of CO_2 into the atmosphere. In light of the recent concern over climate change and greenhouse gas emissions, forest fires have come under scrutiny as a potential cause of global warming. Additionally, in light of the Court's recent decision, CO_2 emissions from burning biomass and forest fires face potential regulation by EPA.

It is true that forest fires that burn forest floor litter and some understory plants (often serving as ladder fuels) cause an immediate emission of CO_2 into the atmosphere. However, over time, emitted CO_2 will be reabsorbed into new fast growing plants that are regenerated in place of those that were burned and those that establish as a result of the exposed mineral soil and nutrients released from the burned litter. The net result is that such fires followed by regeneration are either carbon neutral or could cause additional storage through sequestration. Current studies are underway to document in some fuel types the amount of CO_2 that is emitted during burns, and how long it takes for the burned area to return to its function as a carbon sink.[2]

As a general proposition, the Society of American Foresters (SAF) recognizes that fire plays a key role in many forest and range ecosystems. In addition, SAF believes active and comprehensive management of forest fuels (ladder fuel vegetation and litter) can reduce the risk of unacceptable wildfire losses. Accordingly, SAF believes that active and comprehensive management of vegetation, including the use of prescribed fire, is essential for sustaining the nation's forest and rangeland ecosystems and the values people expect from them.[6]

Fire has become a part of most forest and rangeland ecosystems as they evolved over time. Naturally-ignited and human-ignited fires played a role in shaping vegetative patterns over much of the country, including in Florida. Following several large forest fires in the late 19th and early 20th centuries, a national policy to quickly suppress fires was initiated. Land management organizations became very successful in suppressing fires, effectively excluding fire from the periodic role it played in many ecosystems. The inadvertent introduction of exotic plant species (often in the absence of natural fire) and some past land-use practices have also lead to unintended changes to many forest and rangeland ecosystems

Wildland fire, particularly prescribed fire, has historically been used by fire management professionals to accomplish various land management goals or objectives, among these: 1) site preparation for natural or artificial regeneration; 2) wildlife habitat improvement; 3) disease control; 4) aesthetic improvement; 5) reduction of hazardous fuel loads; and 6) access improvement, either for forest management activities or recreational purposes. More often than not, when one of these objectives is the driving force behind conducting a prescribed burn, the other objectives are also met, although perhaps not to the same extent as if it were the primary objective.

Past practices and fire exclusion have resulted in forests and rangelands with altered fuel composition, density, and structure as compared to historic conditions. In particular, fire exclusion has resulted in significantly higher fuel loads that have, in turn, resulted in wildfires of greater size and intensity than those experienced historically. Large, intense wildfires have proven difficult to control and have resulted in catastrophic damage to property and resources, and the tragic loss of lives.[6]

Many people, desiring to enjoy a rural lifestyle have constructed homes in and around forests. These residences, in the wildland-urban interface, have added to the complexity of fire management. Education efforts are needed to inform these people of the risks of living in wildland fire prone environments, and on how to protect their property, firefighters, and themselves from wildfire. In recent years, smoke management has become a major factor in the decision of where and when to burn. Population growth has caused an increase in the number and use of public roads though forests. This can result in increased exposure to smoke which may affect humans with respiratory problems or create driving hazards. These conditions highlight one of the increasingly complex issues surrounding the wildland-urban interface.[6]

Forested (and other natural) community types, and their relationship to fire, can generally be classified into one of three categories: 1) fire maintained; 2) fire influenced; and 3) fire independent. Fire maintained communities (e.g., Longleaf pine/wiregrass sandhill) rely on frequent, low intensity fire to create and maintain both macro and micro habitat conditions suitable for the perpetuation of plants and animals that are commonly found in these natural community types.

In the absence of fire, the process of succession allows for the horizontal and vertical structure of a particular community type to change. This often results in a change in species composition, a build up of dangerous fuel loads, and among other things, a change in the tangible and intangible benefits that were present before an excessively long fire return interval. It is often difficult to reverse the successional changes brought on by a change from a frequent fire return interval to a long fire return interval.

Fire influenced communities (e.g., sand pine scrub, hardwood scrub) are not as dependent on fire as a fire maintained community to sustain ecological structure and integrity. While the fire return interval is often longer in a fire influenced community than in a fire maintained community, fire still plays an important role in the long term maintenance of community structure and species diversity, both plant and animal, in fire influenced communities. Lightning is often the ignition source for fires in fire influenced communities during periods of drought. The resulting fires are often difficult to extinguish and these areas typically smolder for long periods of time, making fire containment and extinguishment difficult. Notwithstanding these fire containment and suppression issues, fire influenced communities areas benefit from fire, which temporarily halts ecological succession, returning nutrients to the soil. Such conditions create micro and macro habitat conditions suitable for the regeneration of a diversity of species and ultimately enhancement of wildlife habitat. [SC1]

Fire independent communities (e.g., bottomland hardwood forests and cypress heads) rarely experience natural or human ignition sources, primarily due to their consistently wet or hydric conditions, and the sparse fuels that are conducive to ignition and combustion. These areas therefore typically do not burn, and if they do, will do so only under the most extreme conditions of drought. Yet when burned the nutrients in the accumulated organic matter are released, mineral soil is exposed, and vigorous vegetative regrowth occurs. Young, rapidly developing forests are known to be extremely effective in removing carbon from the air and storing it in their growing stores of biomass.

Summary

Fire is a natural component of most forests. Prescribed fire is a tool that allows managers to imitate nature when natural fires can not be permitted to occur unabated. Properly used, fire allows forests to be sustainably regenerated and managed and landscape integrity preserved. While there are problems with people and fires in forests, particularly along the wildland-urban interface, they can be mitigated through public education and by forest managers professionally conducting prescribed burns, and who are Certified Prescribed Burn Managers.. [SC2]There are provisions in place for certifying foresters to manage prescribed fires. Therefore, the Society of American Foresters seeks to continue these practices and strongly discourages any policies that restrict landowners from practicing sound sustainable forest management.

References cited:

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2) EPA: Air quality regulations and smoke management: A brief primer http://www.tncfire.org/documents/FMR/airquality.pdf

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4) The National Center for Atmospheric Research and the UCAR Office of Programs – Drought and Wildland Fire, http://www.ucar.edu/research/climate/drought.jsp

5) Massachusetts v. Environmental Protection Agency, 127 S. Ct. 1438 (U.S. April 2, 2007), http://www.supremecourtus.gov/opinions/06pdf/05-1120.pdf

6) Wildfire Management – a positon of the Society of American Foresters http://www.safnet.org/policyandpress/psst/fire0902.cfm