

# Rx FIRE LAWS: TOOLS TO PROTECT FIRE: THE ‘ECOLOGICAL IMPERATIVE’

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**Abstract.**—The South is the birthplace of statutes and ordinances that both advocate and protect the cultural heritage of woods burning, which has been practiced in this region uninterrupted for more than 10,000 years. We present a brief overview of fire use in the South and discuss why most southern states recognized early on that periodic fire was necessary to sustain fire adapted ecosystems and passed laws to protect and facilitate the practice of controlled burning. We also provide examples of legislation promoting this ecological imperative and share ideas we have found helpful in getting the “right” people involved to assure passage of such legislation. Finally, we discuss constraints to prescription fire that need to be mitigated, as well as items to consider including in pro-fire legislation.

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## INTRODUCTION

We believe the Florida Prescribed Fire Act (Appendix A) is the best such statute in the country. If you participate in crafting a bill to safeguard the intentional use of fire in your area, we suggest you use the Florida act and accompanying rules as your starting point and modify them as necessary. That is the easy part; the real challenge is to get enough of the “right” people actively involved to sway public opinion and assure passage of your bill. The key to such an endeavor is an underlying faith that well-informed people will make well-informed choices. Because we have such faith, we weave our message and suggestions into a tapestry of fire and fire-use history in the hope that we will motivate you to action.

## FIRE USE IN THE SOUTH

In the South, the ecological fire-return interval is shorter than almost anywhere else in the Nation, the result of both natural and anthropogenic fire. The incidence of cloud-to-ground lightning is higher in the South than in any other region of North America, and is responsible for many wildland fires. But anthropogenic fires are of at least equal importance. “By about 11,000 years ago, the Paleo-Indians and their fires had traversed all of the New World from Alaska to the tip of South America” (Stowe 2004a). Over the ensuing centuries, Native Americans

continued to learn new ways to improve their standard of living through the use of fire. Henry Lewis (1973) listed 70 reasons Native Americans burned the land while Williams (2000) grouped their reasons for burning into 11 categories. The pattern of occasional higher intensity, wind-driven fires and severe-drought fires that was superimposed on chronic lightning and Native American fire regime shaped and maintained vast southern prairies, savannas, open woodlands, and canebrakes, according to early European explorers. The journals of many of these explorers also mentioned numerous smoke columns and extensive smoke and haze that often lasted for days (e.g., deLaudonniere 1587). Into this environment came European—more than 75 percent with a pastoral background—(Owsley 1945) and African settlers. Both groups brought a knowledge of fire that they merged with that of the aboriginal American residents. Thus, the existing fire regime was expanded and reinforced.

The region’s endemic flora and fauna thus became even more intermingled with and dependent on fire (Martin and Sapsis 1992). Eldredge (1911) described the turn-of-the-century fire situation in north Florida: “The turpentine operator burns his woods and all other neighboring woods during the winter months, generally in December, January, or February. The cattleman sets fire during March, April, and May to such areas as the turpentine operator has left unburned. During the summer there are almost daily severe thunderstorms, and many forest fires are started by lightning. In the dry fall months hunters set fire to such “rough” places as may harbor game. It is only by chance that any area of unenclosed land escapes burning at least once in two years.” This pattern typified

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the situation throughout the region, and although not everyone was in agreement with this ubiquitous use of fire, the survival of rural families depended on it (see Komarek 1981). So long as people accepted fire and its inevitability on nature's terms, the precarious balance between humans and this natural force was maintained. Rural southerners realized that fire exclusion would tip this balance, destroying both ecosystems and attendant wildlife, while significantly increasing the likelihood that they would lose their homes and even their lives to uncontrollable wildfires that follow attempted fire exclusion.

When it became obvious by the late 1920's that rural residents of the South were openly ignoring state and federal laws banning fire, the USDA Forest Service sent in the Dixie Crusaders (Schiff 1962; Jacobs 1978) to preach the benefits of fire exclusion and the evils of woods burning. Sociologists and psychologists such as John Shea (1940) also were sent with orders to "*find the inner-most reason why inhabitants of the forest lands of the South cling persistently to the custom of burning the woods*" so that a more effective fire prevention campaign could be mounted and finally put a stop to "*the annual fires that for more than a century have characterized the land and social economy of our southern states.*" Shea (1940) thought the nearly unanimous explanation given by people he interviewed "*that woods fires kill off snakes, boll weevil(s) and serve other economic ends are something more than mere ignorance. They are the defensive beliefs of a disadvantaged culture group.*" History proved Shea wrong but the point is that it is only natural for outside experts as well as uneducated and misguided but otherwise well-meaning people to attempt to "correct" customs and actions that they do not believe are in the best interests of those who practice them. Such customs and actions may require adjustment periodically in accordance with John Dewey's "reflective morality" (Frankena and Granrose 1974; Stowe 1997), but attempted "force feeding" usually promotes only rebellion.

When you have an objective that requires the help of people with different opinions, your agenda more than likely will be advanced if you keep an open mind, state your views clearly, listen and internalize what you are

told, put yourself in their shoes, and, if you still disagree, craft your rebuttal from their point of view. This process is much more likely to yield a workable solution than if you "talk down" to people, or relentlessly harangue them with your message. More extensive discussions of southern fire history can be found in Komarek (1981), Pyne (1982), Wade and others (2000), Johnson and Hale (2002), and Stowe (2004a, b). Putz (2003) is a must read for anyone attempting to understand the culture of woods burning in the South; he provides a humorous but accurate account of why historic landscapes have been maintained in many areas of the South despite federal and state laws that once banned the practice of burning the woods. Future laws that ignore or ban local traditions and culture likely also will be ignored. On its website, the Florida Division of Forestry puts it succinctly: "*Removing the option of controlled burning does not stop the burning, it just removes the control.*"

Many people questioned the southern practice of woods burning and devised experiments to study this phenomenon, which led to the science of prescribed fire. These studies and observations, many by government land managers and by Herb Stoddard of the Tall Timbers Research Station (See Komarek 1981), moved the science forward until more acres are prescribed burned in the South today than in the rest of the nation combined. Wade and others (2000) estimated that more than 3 million acres of forest land and 3 million acres of pasture in the South are treated with prescription fire each year, down about 2 million acres from the 1970's (Wade and Lunsford 1989). Haines and Busby (2001) reported that slightly more than 4 million acres of southern pine were burned annually between 1985 and 1994. The 13 states in the South comprise more than 534 million acres, most of which burned periodically a couple of centuries ago, so there is an enormous gap between the acreage that burned historically and the acreage that currently burns. This disparity is a major reason why the South typically has more wildfires than all other sections of the contiguous United States combined (more than 45,000 per year). Although these fires tend to be smaller, the South often has more acreage subjected to wildfire as well, averaging nearly 1 million over the past 7 years (Gramley 2005).

## THE NATURAL ROLE OF FIRE

The complexities of combustion aside, fire is nothing more than the rapid oxidation of organic matter, the same basic process as decomposition, albeit at a much faster rate. Wildland fire is a natural process that produces change—a basic premise underpinning the field of ecology. Whether these changes are viewed as desirable or not depends on their compatibility with human values, which typically have little to do with the natural scheme of things. Fire starts, facilitates, accelerates, decelerates, or stops the myriad of natural processes necessary to perpetuate fire-adapted ecosystems (see Wright and Heinselman 1973; Christensen 1977; Wade and others 1980). Sooner or later, fire is required to rejuvenate or maintain most terrestrial ecosystems and the various ancillary loops and cycles that keep them fully functional, though its return interval can range from months to centuries. In-depth discussions of the role of fire in North American ecosystems are found in DeBano and others (1998), and Brown and Smith (2000), both of which contain extensive references.

Fire has been shaping Earth's landscape for millions of years, and has been augmented by anthropogenic ignitions for a long time (See Robinson 1988). Fire not only helped shape and maintain the terrestrial biota around us but it profoundly influenced the progress of humans. Fire was the first tool we learned to use on a landscape level, and our ability to harness this natural force sets us apart from all other animals. The mystique surrounding fire, its ambivalent nature, and its importance misled ancient Greeks and Chinese into identifying this powerful force as one of the four basic elements governing our planet; even today we are still trying to unravel the mysteries of this phenomenon. Luckily, complete knowledge is not a prerequisite to its effective use. Over time, our skill and ability to manipulate the behavior and effects of wildland fire has resulted in significant economic and societal gains.

This is not the place for an in-depth discussion of the economics of prescription fire because the overriding mandatory reason we must protect and facilitate its use is that it is an "Ecological Imperative." That reason aside, prescription fire remains the least expensive method for modifying the landscape and as such always will be

popular (e.g., see Dubois and others 2003). Alexander and Thomas (2006) described current costs of fuel treatment, including fire, while Wade and Moss (1999) showed that the periodic use of prescription fire results in a benefit/cost ratio of nearly 2 to 1—adding a return of more than \$3 per acre per year for a landowner managing for southern pine. See Dale and others (2005) for a discussion of the need to factor the benefits of fire into wildfire suppression decisionmaking; they used a Colorado case study to show how substantial cost savings accrue from expanding the use of prescription fire. Mason and others (2006) provided an economic assessment that shows substantial net benefits from investments in fuel removals to reduce the incidence of crown fire. The literature contains numerous accounts from throughout the country of wildfires dropping to the ground, causing less damage, and becoming much easier to suppress after spreading into areas where fuelloads had been reduced by a previous fire (e.g., Moore and others 1955; Davis and Cooper 1963; Cumming 1964; Helms 1979; Wagle and Eakle 1977; Martin 1988; Ferguson 1998; Outcalt and Wade 2000).

When trying to measure the success of fire prevention, it is impossible to know how many fires your efforts prevented; the same holds true in determining what a wildfire would have cost to suppress and how much damage it would have caused had it not run into a relatively recent burn. Saveland (1987) used breakeven analysis to demonstrate that "large financial gains" would accrue from the use of prescription fire to reduce fuels in critical areas, and Jonathan Yoder is working on a dynamic economic model for prescription fire that incorporates risk, liability, and timing (e.g., Yoder 2004; Yoder and Blatner 2004).

## LEARNING FROM THE PAST

We cannot look into the future to see the results of alternative actions before they are taken, but we can learn from the past. As former Florida State Forester John Bethea said: "*You can no more get to where you don't know where you're going than you got to where you think you are from where you don't know where you've been.*" With that in mind we take a brief look at past fire management and legislative attempts to exclude fire.

By the mid-19th century, steam, and early in the 20th century, the internal combustion engine, both with their tightly-harnessed fire, became commonplace and fire no longer was the only mechanism available to humans that could modify the environment on a landscape scale. Using these new tools, humankind changed the landscape at an awesome pace, but we could not distance ourselves from fire. We created an unprecedented accumulation of debris as we cleared the wilderness, clearcutting and high-grading our way across the continent. Nature's match coupled with our own carelessness with fire, including the plethora of accidental fires resulting from these new inventions (especially steam locomotives, which spewed a never ending trail of sparks from their stacks), led to devastating fires. The result was conflagrations and tragedies like the Miramichi Fire that blackened more than 3 million acres of Maine and New Brunswick in 1825 with a loss of more than 160 lives; the 1871 Peshtigo Fire in Wisconsin, which killed 1,500 people and devastated 1,000 square miles of pine forest in 8 hours; the 1903 Adirondack Fires; the postlogging fires of the Lake States in 1910 and 1918 which snuffed out 400 lives; and the 1910 Idaho and Montana fires that burned 3 million acres (USDA For. Serv. 1954).

Those fires led to a public outcry for change. The answer was obvious, or so it seemed; simply exclude the fire demon from wildlands and forests would at last be free to grow to their full potential, yielding an unprecedented bounty for human enjoyment and use. Although scientists, educators, and land managers recognized the need for suppressing unwanted fires, many also advocated the use of prescribed burning as a hazard reduction measure and fervently warned of the dangers of attempted fire exclusion. Gifford Pinchot (1898), the first Forest Service Chief and the person who implemented the Agency's fire control policy, recognized the need for intentional fire to keep hazardous fuels from accumulating. But it was not to be; once the public spoke in a unified voice, Pinchot acquiesced even though he must have realized that the plan he implemented would not be successful over time. Abraham Lincoln put it, *"Public sentiment is everything. With public sentiment, nothing can fail. Without it, nothing can succeed"* ([www.brainyquote.com/quotes/authors/a/abraham/lincoln.html](http://www.brainyquote.com/quotes/authors/a/abraham/lincoln.html)).

Thus began the federal fire exclusion policy and the federal government embraced it with zeal. Many forestry officials in the South recognized the folly of fire exclusion and did not actively endorse it. But despite this initial lack of support, the federal fire exclusion policy was extended to all lands with passage of the Clarke-McNary Act in 1924. This act used the carrot-and-stick approach (See Schiff 1962) that eventually forced all states to join the parade to a war that could not be won.

To make sure everyone is on the same page, fire suppression and fire entirely are completely different concepts. The objective of fire suppression is to extinguish unwanted/ illegal fires quickly in a safe, efficient manner; wildland fire suppression has been and doubtless will continue to be a high priority for all land management agencies; its long-term consequences are reduced damage to ecosystems, reduced financial losses to landowners, and increased public health and safety. Fire exclusion is the attempt to remove fire from the landscape; its long-term consequences are escalating suppression costs, decreased probability of success, increased risk to firefighters and the public, and unwanted ecosystem changes.

Most fire management agencies in the South believe that protecting the public and sustaining ecosystems entails a full-fledged fire prevention campaign, highly trained state-of-the-art fire suppression forces, and the extensive use of prescribed fire. Outside of the South, some states are slowly moving in this direction. For example, in 2005, Michigan joined Florida, Georgia, and Nevada in providing landowners with the highest level of liability protection. The small steps many states are taking to include prescription fire as an agency mandate should be applauded rather than criticized for their slow progress. Such fundamental changes in philosophy should be incorporated operationally in well-planned small steps to build confidence and develop expertise.

The application of fire on the landscape is as much an art as a science because the behavior and effects of fire are microsite-specific and change as burning conditions change throughout the day and year. Many resource managers would rather not use fire because of the risks involved, but they do so because they recognize fire is

inevitable and that one is much better off using it under conditions they select as opposed to allowing nature and a temporally unpredictable ignition source to determine its timing. Bob Cooper, the first Project Leader at the Southern Forest Fire Laboratory, said “*fire makes a good servant but a poor master.*” Herbert Stoddard (1961), an early advocate of prescribed fire and the founder of Tall Timbers Research Station stated: “*Fire may well be compared to a two-edged sword which requires judgment, care, and experience to properly handle....*”

## THE LEGACY OF FIRE EXCLUSION

On areas where fires had once been frequent, they were easy to extinguish due to a picturesque, low-stature, herbaceous ground cover. But as fuels accumulated on unburned areas and woody brush shaded out grasses and forbs, fires became more difficult to start, though once ignited they became increasingly difficult to suppress. When uncharacteristically high fuel accumulations inevitably did burn, rather than acting as a cleansing or rejuvenating force, fires often became high-intensity and catastrophic conflagrations. Systems that traditionally were perpetuated by fires spreading across the forest floor now faced fires that climbed into and consumed the canopy. Alterations in fire regime can lead to atypical successional pathways and extirpation of flora and fauna (Gill and Bradstock 1995; Glitzenstein and others 2003). Two early researchers, Frank Craighead during World War I in California and Harold Weaver several decades later in Oregon, documented the dramatic difference in forest health between forests burned on a regular basis where insects were endemic and those on surrounding unburned lands where insect populations were epidemic (Weaver 1959; Craighead 1977).

According to Wuerthner (1995): “*No single human modification of the environment has had more pervasive and widespread negative consequences for the ecological integrity of North America than the suppression of fire. Fire suppression has destroyed the natural balance of the land more than overgrazing, logging, or the elimination of predators.*” This opinion may represent one end of the spectrum but it should be obvious to people at the other end that the primary byproduct of attempted fire exclusion was the unprecedented and unnatural buildup of fuels on the Nation’s wildlands, which contributed

to conflagrations capable of killing everything in their path. Vogl (1976) warned us that “*Nature strives to maintain balances. Nonliving and living systems tend to be oriented toward a balanced state. When the existing quasi-equilibrium of these ecosystems and the organisms comprising them is disturbed or upset, feedback mechanisms come into play and phenomenal forces are amassed in the recovery and restoration to stability and balance.*” This is exactly the scenario that unfolded with attempted fire exclusion in many sections of the country. Dead fuels accumulated and woody species previously restricted to the ground layer grew to form a dense midstory that shaded out the herbaceous ground cover and provided a pathway for fire to reach the canopy layer. From an ecosystem standpoint, the removal of fire jeopardized the long-term perpetuation of fire-adapted ecosystems. Frances Bacon understood the folly of the sort of thinking behind fire exclusion when he observed that “*Nature is not governed except by obeying her*” ([http://www.brainyquote.com/quotes/authors/f/francis\\_bacon.html](http://www.brainyquote.com/quotes/authors/f/francis_bacon.html)). Removing fire also violated principles described by Aldo Leopold (1949) in his *A Sand County Almanac* such that “*The first rule of successful tinkering is not throwing away any of the pieces.*” Fire exclusion amounted to throwing away one of the critical pieces.

Over time, the American public came to understand the unwelcome but inevitable consequences of attempted fire exclusion and realized that we do not have the ability to stop catastrophic fires once they start. When faced with such fires, firefighters have to wait for a change in the weather, a change in topography, or for the fire to run out of fuel. The only practical alternative is to alter the fuels that foster these fires.

Although it became more obvious with each passing decade that the marriage between fire and wildlands could not be split asunder, it took 70 years before the public finally demanded a stop to government efforts to divorce them. Despite the outcry, which resulted in a new federal policy that now includes the use of fire, e.g., U.S. Environ. Prot. Agency (1998), U.S. Dep. Interior and others (2001), USDA For. Serv. (2003), the debate continues as we cope with catastrophic fires and the legacy of this failed exclusion policy, and ponder how enthusiastically we should embrace and regulate the

intentional use of wildland fire. Several federal incentive programs promote and facilitate its use, for example, the Healthy Forest Restoration Act, Landowner Incentives Program and Wildlife Habitat Incentives Program. But this encouragement to burn lacks the same zeal or determination once used to promote fire exclusion. Also, these programs often seem to place more emphasis on fuel reduction than on the restoration of a natural process. See McCarthy (2002a) for a discussion of the politics involved.

Ten years after this watershed change in fire policy, it seems that there has been considerable vocal but relatively little operational progress, even in the South. The 13 Southern States contain about 225.6 million acres of forest land, 219 million of which are available for commercial use. This commercial forest land comprises 70 million acres of pine, 32 million acres of mixed pine/hardwood, and 117 million acres in hardwood. About 11 percent or 24.8 million acres of this is government owned (Gramley 2005). We estimate at least an additional 100 million acres, most of which is in Oklahoma and Texas, is in unimproved and improved rangeland/pasture. If Frost's (1998) estimate of presettlement fire regimes is correct, the enormity of the task before us becomes clear. According to Palmer and others (2004), only about 35 percent of state lands and 1 to 5 percent of private forestlands are being burned as often as they need to be for proper fuels management.

Few if any managers have the staff, funding, or full commitment of their superiors necessary to treat all the acres needing fire given the limited number of days with acceptable weather and fuel conditions. One impediment is the lack of incentives for a fire manager to take risks. It is much easier and professionally safer to advocate the benefits of fire but to never have the "right" conditions than it is to shoulder the risks involved with authorizing or conducting a burn. Prescribed fire requires action and with action comes responsibility. Fire exclusion is often a do-nothing-then-react approach that ensures anonymity and protection from the responsibility of taking action. There is always more responsibility associated with taking action than with reacting to outside stimuli. Although the risk of a bad outcome decreases with multiple burns on an area, it never disappears and the

law of averages always is at work. Currently, there are few if any incentives for "doing the right thing" other than one's own belief that as a manager "it is my obligation and moral responsibility to future generations to try to maintain healthy, fully functional ecosystems." In the administrative climate of most organizations, including every federal land management agency, the penalties for a bad outcome let alone a mistake can be so severe that the only prudent choice for some professionals is not to burn. When fire is unleashed carelessly or with harmful intent, it can have devastating consequences. Thus, prescription fire carries with it a huge responsibility to use it wisely. Fire managers willing to shoulder this responsibility deserve the protection a statute can offer.

Nationally, we are losing fire experience to retirements faster than it can be replaced. This loss of experience places the entire prescribed fire industry at greater risk because burners with less experience are called upon to burn in a world far more complex than the one in which the "old fire dogs" gained invaluable experience. We cannot afford to exacerbate this problem by discouraging fire managers because the risks become too high for them to bear absent a good prescribed fire law.

Prescribed fire also needs to be protected from those who want to eliminate it for nonscientific personal reasons ranging from air quality issues to a misguided belief that fire is patently bad for plants and animals. If people opposed to the intentional use of fire become organized in the absence of a good law promoting/protecting prescribed fire, this valuable tool can be lost. That came close to happening in Georgia in 1989 when an escaped agricultural burn ignited peat adjacent to Interstate 75 and "smoked in" the I-75 for several weeks while the state legislature was in session. The governor demanded action and a bill was quickly introduced to ban all open burning. Although it was defeated, prescribed burners in Georgia got the message and a bill modeled after the Florida Act was introduced and passed the following year. It occurred again in Georgia 10 years later when the Environmental Protection Agency (EPA) threatened to withhold federal highway funding if Georgia failed to develop a strategy to reduce air pollution in Atlanta resulting primarily from the *100 million miles* driven per day in the area (Leinberger 1998); Pollard 2003;

Fed. Highway Admin. (2003). This megalopolis is the fastest growing human settlement in history and by most measures the most sprawling major metro area in America because Atlanta has chosen to grow out rather than up. Rather than curtailing this metastasis, Georgia demonstrated its unwillingness to make the hard choice and instead restricted open burning in the surrounding 43 counties from May through September. This policy is severely hampering efforts to restore the rare montane longleaf pine ecosystems of northwest Georgia, which require growing-season burns.

The problem with such lack of moral fortitude is that it is contagious. For example, in 2004, the EPA added Augusta, Columbus, and Macon to its list of nonattainment areas in Georgia. Many people were blindsided by the Georgia Environmental Protection Division (GAEPD), which unveiled its plan to appease the EPA by using the same strategy used in Atlanta, namely, the elimination of all open burning during the months of May through September in an 11-county area, which includes a national wildlife refuge, a national forest, and two large military bases, all of which depend on growing-season prescription fires for hazard reduction and T&E species management. Agricultural burns were to be exempted and when GAEPD was asked to explain the reason for the agriculture exemption, officials stated: “*They have a more powerful lobby.*” Further, GAEPD considers the contribution of carbon dioxide from agricultural burning as irrelevant because “*the carbon dioxide released is reabsorbed by crop regrowth in the next growing season*” (Georgia Dep. Nat. Resour. 1999). Using published GAEPD estimates that showed combustion of biomass contributes less than 1/10 of 1 percent of greenhouse emissions in Georgia, compared to 48 percent from petroleum and 44 percent from coal (there are two coal-fired power plants in the Macon vicinity) and that forests sequester more carbon dioxide each year than is produced by all sources of biomass combustion, (Georgia Dep. Nat. Resour. 1999), these proposed restrictions were scrapped and a compromise reached. Because such horror stories are all too common, we must be continually on guard and prepared to intelligently refute such tripe within the short time frame constitutionally allowed before it takes effect. Part of this preparation is to have a prescribed fire statute that makes

prescription fire a landowner right and includes language to shield landowners from corrupt and/or misguided officials. Fire councils can demonstrate their usefulness in such situations by providing a prompt, recognizable, and unified voice for prescribed fire.

## WHY WE NEED LAWS PROTECTING AND FACILITATING PRESCRIPTION FIRE

- The general public, to a large degree, suffers from the misconception that “all fire is bad” and thus views the intentional use of fire as counterproductive at best.
- Prescribed fire is a resource management tool that benefits the safety of landowners and the public, the environment, and the economy of community, state, and nation.
- There are risks associated with the use of fire:
  - Escapes that can damage another’s property.
  - Smoke intrusions that can cause health and safety concerns.
  - These risks can be due to negligence on the part of the burner or due to unpredictable events.
  - Burners should be held responsible for damages when they do not follow appropriate standards, particularly where spelled out in the law.
- Burners should have personal protection from damages to others when appropriate precautions were taken and due caution exercised.
- Burners should be protected from nuisance complaints when they follow appropriate burn execution standards.
- Burners should be rewarded for enhancing their skills and ability to excel in their use of this risky undertaking.
- Without such a law, some resource managers “talked the talk” but continually found excuses not to burn. When nature does it, they are not held accountable.

Good rules to facilitate fire use will make the planning and execution of a burn more efficient and cost effective

by eliminating needless and often repetitious paperwork requirements and multiple approvals, by recognizing and rewarding practitioners who strive to increase their knowledge and skills, and by creating a favorable legal environment that provides meaningful burner protection.

Neil Sampson (1995), executive vice president of The American Forestry Association, stated: “*Fire is the most powerful, unpredictable, and potentially deadly tool land managers can use.*” A point of clarification is that fire behavior is predictable but the predictions are only as accurate as the inputs, for example, the weather forecast they were based on. See Weiner (1985), Siegel (1986), and Stanton (1995) for a discussion of the legal aspects of prescribed burning. We believe resource managers should be held more accountable for not using fire in fire-adapted ecosystems than for using this “Ecological Imperative” and experiencing a bad outcome that is beyond their control.

Because of the ecological necessity of periodic fire, the cultural heritage of managed fire, and the threat to fire use resulting from an increasing population, southern states have sought legislation to protect the future of prescribed fire as a management tool, but they are not alone. Sun (in press) reviewed the liability burdens placed on landowners who use prescription fire in all 50 States and recent statute changes. He found that all but six state statutes have evolved from “heavy liability burdens” on landowners using prescription fire toward a negligence tort rule (Appendix C), probably due to a resurgence in demand for prescription fire as a management tool. Easy-to-understand descriptions of the differences between strict tort liability, uncertain liability, simple negligence, and gross negligence are also given. Currently, 22 states have legislation protecting/encouraging the use of prescribed fire. Seventeen are east of the Great Plains, including 11 in the South: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Texas, and Virginia.

## THE HUMAN FACTOR

Given the obvious need to drastically increase the amount of acreage treated with fire, what is the holdup? The simple answer is that wildland fire and people do

not mix well and the South has the fastest growing population in the United States. But as Stowe (2004a) pointed out, “*While it is tempting to blame the increasing hassles associated with land management practices on these immigrants, we would do well to remember that many of these folks come from a region with a recent fire history much different than that of the South.*” Immigrants from the North are joined by affluent southern urbanites who want to escape the pollution and closeness of city life for a home in the woods surrounded by nature. Matthews (1992) defined the term “rurbanization” as “*the invasion of affluent urban and suburban-oriented people into rural areas, looking for a self-defined ‘country’ lifestyle, while importing urban attitudes and values and expecting urban amenities.*” These rurbanites generally are unaware of the hazardous buildup of fuels in their own backyard (Gardner and others 1987). Most view just blackened landscapes as damaged rather than as rejuvenated. Southern states have multifaceted outreach programs to educate new arrivals and their children on the biological necessity of wildland fire in the fuel types where they have chosen to live. But when asked about his agency’s outreach regarding prescribed fire, Florida State Forester Mike Long lamented: “*They are immigrating faster than we can educate them.*”

Many rurbanites will tell you that they desire intact, fully functional ecosystems, including the judicious use of prescribed fire, but in reality their acceptance often is on a conceptual rather than on an operational level. Most do not like the smell of smoke, being inconvenienced by ashes in their swimming pools, or subjected to detours and delays when traveling because of smoke on the road. This situation will continue to deteriorate so long as people choose to build out rather than up. Many people have a strong desire to live in or at the edge of wildlands. But this places people and their homes among fire-prone vegetation. People living at this wildland urban interface (WUI) do not realize they can, or believe they should have to, reduce fuels around their homes to make them more fire safe; they expect the taxes they pay to provide complete protection even when unnatural, fuel-infested plant communities catch fire. The truth is that when fire enters the WUI, suppression forces have to make hard choices regarding the allocation of resources. Firefighters

must allocate resources to evacuate residents and protect unprepared houses, both at the expense of resources that could have been used to combat the spread of the fire. When resources for suppressing fire are curtailed, it grows larger and threatens even more homes. People who choose to live in the WUI must realize that fire protection is not a certainty and that they must shoulder their share of the responsibility for protecting their homes.

Insurance rate structures are used to encourage better driving habits and to encourage homeowners to protect their homes from theft. Similar rate structures could be used to encourage homeowners to shoulder more of the responsibility to reduce the threat of wildfire on their property. If the insurance industry was forced to determine rates based on risk in a particular area rather than spreading the cost of insuring homes in high fire-risk areas across its entire domain, and if homeowners using wood shakes for roofing or siding or plastic soffit vent covers were unable to collect in the event the structure was damaged by wildland fire, we believe that problem would solve itself quickly. Another problem is that disaster loans and low premiums subsidize inappropriate and high-risk construction (Davis 1990).

State fire management agencies are committed to work with the public to make the interface a safer place to live, but they cannot do it alone. As fires in the WUI became more problematic, this issue has been addressed through land use planning, zoning, structural codes, and development design (Irwin 1987; Davis 1990; Rice and Davis 1991; Pumphrey 1993; Haines and Cleaves 1995). But as Monroe (2002) lamented: “*Unfortunately, few of these recommendations are easy to implement after homes are built, and few seem to be heeded during the planning phase.*” On a positive note, this affords an opportunity for local and state governments to help safeguard their constituencies by providing guidance to and requirements for developers, builders, and homeowners. State and local officials should be encouraged to seek federal funding support for fuels mitigation and for the use of federal prescribed fire use teams on nonfederal public and private lands. See Plevel (1997), Monroe (2002) and Long and others (2005) for suggestions.

## **IDENTIFYING THE RIGHT PEOPLE TO FACILITATE PRO FIRE LEGISLATION**

Once the need for a prescribed fire law is recognized and the decision to craft a bill is made, the next step is to get the right people involved. To enhance the chances of success, you would do well to marshal a diverse group of fire practitioners that includes state wildfire and wildlife agencies; all state and federal land management agencies; the structural fire community; community planners; the insurance industry; municipal and county land managers; forest industry; the state forestry association; range management groups; nongovernment organizations involved in land management and restoration such as The Nature Conservancy; private landowners who use fire; and sportsman’s clubs and other special interest groups such as the National Wild Turkey Federation. By creating a united front, the team can demonstrate this is a larger issue than any one entity. The team can also send the right messenger, or group of messengers, to meet with people who oppose the proposed legislation. A team also can deflect attacks on an individual member. Southern cattlemen and farmers are major contributors to the acreage burned with intentional fire, but both groups have initially tended to choose not to be covered under prescribed burn legislation because it would be much more restrictive to them. However, the situation may differ in your state, so we suggest you approach such groups because they generally have strong lobbies.

Every restriction to prescribed burning means fewer acres treated. The underlying purpose of a prescribed fire law is to help ensure that the assemblages of indigenous plants and animals that make up our wildlands continue to thrive as fully functional ecosystems. Legislation cannot make it so but it can and should promote, facilitate, and protect the intentional use of fire for the benefit of both private landowners and society as a whole. Current laws and attendant rules and regulations in many states severely curtail the use of prescription fire; in some states, open burning is banned during the day while in others the permitting process is a nightmare (see McCarthy and Foster 2002). When drafting pro-fire legislation, include language that addresses contradictory language in existing law.

Prescribed fire legislation should be drafted so that it both facilitates fire use and allows for adaptive management. We list a number of items/issues that should be considered when drafting pro-fire legislation (Appendix F). We do not want to once again enact fire statutes that dictate a specific course of action only to find later that they were flawed and/or shortsighted. An excellent strategy to assure this does not happen is to make such legislation general and have the statute delegate authority to a state agency to formulate the details through its rule-making process (See Appendix B). Another reason to keep the law general is that support for a broad concept can be developed by reaching out to a diverse group of organizations, but persuading these groups to reach a consensus on the details of such a law is difficult at best. Such a strategy enables the agency to practice adaptive management and make changes as warranted without exposing the statute itself to the fickle nature of legislatures and the political necessities of election year politics. It took nearly a century of fire exclusion to create the current situation and it will take decades to resolve the problem. Conditions will continue to change and new tools will become available.

It is essential that we take action because the no-action approach will not resolve this issue despite what some people want to believe. Vitousek and others (1997) described the necessity of active management well when they wrote: *“There is no clearer indication of the extent of human domination of Earth than the fact that maintaining the diversity of ‘wild’ species and the functioning of ‘wild’ ecosystems will require increasing human involvement.”* Howard (1974) believed it is our obligation: *“Man has a moral responsibility to manage nature once he disrupts it.”* That belief was echoed by Dr. Patrick Moore, cofounder and former president of *Greenpeace*, who stated: *“...we have a responsibility/obligation to use our knowledge and experience to keep US forests healthy.”*

There will be people who resist any action taken to manage natural lands. Leopold (1942) identified the root of the problem that causes well-meaning people to fight the very activities needed to perpetuate fully functional ecosystems. He wrote: *“I am convinced that most Americans have no idea what a decent forest looks like. The only way to tell them is to show them.”* There are

numerous examples of communities where succession has been stabilized at a particular sere by chronic low-intensity fires, as well as examples of those that have been rejuvenated by having succession set back to an earlier successional stage with less frequent but higher intensity fires. The benefits of the proper application of fire can be seen on these sites which serve as standards we can emulate. But without the continued presence of fire they too will disappear. If we do not begin to use fire on a much grander scale, there will be far fewer of these sites to behold. It would be a shame if we end up with nothing worthwhile to show (Orr 1993). You can contact any of the authors for information on the location of healthy, fire maintained communities.

Consider organizing a fire council prior to trying to enact prescribed fire legislation. Fire councils are excellent forums for disseminating knowledge, and an excellent way to keep prescribed burners current on new research results, emerging technology, training opportunities and other fire-related issues in your state and beyond. A number of southern states have a fire council (Florida has three). If there is no fire council in your area, we urge you to form one (see Miller 1998).

## **PUBLIC OPINION CAN LEAD TO PRO-FIRE LEGISLATION**

The public is confused because it continues to receive mixed messages. On the one hand, resource professionals are trying to educate the public about the benefits of the judicious use of fire and its biological necessity. On the other hand, newspapers and television often focus on destructive fires resulting from years of attempted fire exclusion. The dilemma that faced the Smoky Bear advertising campaign perhaps exemplifies the situation. It's been said this was the most successful ad campaign in history; since 1944 Smokey has convinced three generations of Americans that all forest fires are patently bad. On Smokey's website ([www.smokeybear.com/](http://www.smokeybear.com/)), you now can find a link to a discussion of the intentional use of fire, though it is not well identified. In fact, the word “fire” is removed from the title. Smokey has never said he was wrong or apologized for misleading the public, and his website includes nothing that suggests he misinformed us, so it's no wonder much of the public is still confused. He needs to take a cue from

his colleague Mark Trail and fully embrace prescription fire. One reason we are so adamant about Smokey is because it is still commonplace to see his *suggestio falsi* on posters and billboards. It is these falsehoods that create perceptions and opinions. According to the *Wildland [fire] Communicator's Guide* (National Interagency Fire Center, [http://www.nifc.gov/preved/comm\\_guide/wildfire/index.html](http://www.nifc.gov/preved/comm_guide/wildfire/index.html)), which is linked to Smokey's website: "...*these perceptions, often misperceptions, can become inculcated into society to form 'public opinion'. That public opinion influences laws and policies related to wildland fire management.*" It is up to all of us to try to educate the public and replace Smokey's flawed message with the truth. But this is not an easy task; for example, two of the coauthors were threatened with jail for putting a driptorch in Smokey's hand a number of years ago.

Our primary message is to follow President Lincoln's advice and educate the public so they also can reach the same conclusion as fire professionals, i.e., that wildland fire is truly the "Ecological Imperative." You will bolster your chances of success by using published scientific evidence and existing pro-fire legislation from other areas to support your case. If you are successful in these outreach efforts, your ultimate goal of getting pro-fire legislation passed will be much easier.

We also need to look inward at our everyday activities to see what we can do to promote fire use. Redford and Tabor (2000) observed: "*Conservation practitioners rarely write about the work they do,*" especially their failures. "*Renewal of funding is contingent upon success. Few have ever been rewarded for anything other than success. Inside this straightjacket we will not achieve effective conservation because we will never learn. Learning requires experimentation and experimentation sometimes means failure. When failure is not tolerated learning will never take place. This situation in which experimentation, failure, and learning are not tolerated is a death spiral for conservation. We and all we are trying to save will not survive if we do not break out of this inward-turning spiral and move into the uneven and unpredictable terrain of a highly self-critical adaptive management approach. Time is short as we try to slow the juggernaut of biotic impoverishment. We cannot waste time trying things that others have tried and found wanting. But we cannot do*

*otherwise unless we all document our failures as well as our successes. What is needed is a 'safe-fail' environment where folks are encouraged to innovate, experiment, and learn; but most importantly to document what has been tried, and what has failed. We suggest that the long term success of conservation depends on willingness not only to admit our failures but to share them as well.*" As practitioners, we need to take the time to record what we have found that works and what does not, and disseminate that information.

Most bureaucrats and elected officials at all levels of government will publicly state that they are against the extinction of ecosystems. Given that fire is the Ecological Imperative necessary for the survival of fire-adapted ecosystems, it is in the best interest of public officials to demonstrate their support for the judicious use of prescribed fire by protecting it as a landowner right and by facilitating its use. South Carolina passed the Heritage Trust Act in 1976 ([www.scstatehouse.net/code/t51c017.doc](http://www.scstatehouse.net/code/t51c017.doc)), the first law of its kind that specifically provided for prescription fire. Florida passed a law in 1977 that required absentee landowners to reduce fuel accumulations judged to be hazardous, or reimburse the state for doing so (Wade and Long 1979). The provisions of this statute were embodied in the 1999 changes (Brenner and Wade 2003) to the 1990 Florida Prescribed Fire Act (Brenner and Wade 1992) (Appendix A) wherein Florida followed the example set by Nevada in 1993 and raised its liability standard to gross negligence.

Walt Thomson with The Nature Conservancy in Florida pointed out a shortcoming in the Florida Prescribed Fire Act in that it offers safe harbor to prescribed burners through the standard of care level for gross negligence. This essentially dictates that if you are trained and become certified, you are allowed to exercise a lower standard of care. He suggests that "safe harbor" should be gained through other strategies, e.g., levels of exemption or liability caps. He raises a valid point but one that we believe can be handled by the Florida Fire Control Bureau through its oversight of certified burners. For example, it could require certified burners to report all fire escapes that leave the landowner's property or that result in a smoke incident to the Bureau, which would then use established procedures to review the

situation and strip the burner of his or her certification if warranted, thereby removing that individual's gross negligence protection.

At the local level, all 67 counties in Florida have passed resolutions supporting prescription fire (Appendix D) and 48 counties have ordinances stating that the use of prescribed fire is a property owner's right. Some counties, e.g., Flagler have ordinances that require property owners to clear "nuisance brush and pine" trees or else reimburse the Division of Forestry for the service; others, such as Sarasota County, have created smoke corridors for prescription burns and require realtors to provide a copy of such to all prospective property buyers within these corridors (Appendix E).

More in-depth discussions of Florida laws pertaining to prescription fire and accompanying administrative rules are found in Brenner and Wade (1992), Wade and Brenner (1995), and Brenner and Wade (2003). Both the Florida and Georgia prescribed burn laws have withstood challenges.

It should be noted that there are encouraging signs regarding wildland fire in other regions of the Nation, especially in educating and enticing landowners to take more responsibility in protecting their property from fire. McCarthy (2002b) described an innovative effort to educate homeowners undertaken by the Lands Council in Spokane, Washington. The nationwide FireWise program ([www.firewise.org](http://www.firewise.org)) and Canadian Partners in Protection ([www.partnersinprotection.ab.ca/](http://www.partnersinprotection.ab.ca/)) are others.

## CONCLUSION

Ultimately it will be the public that decides whether intentional fire will be used to manage fire-adapted ecosystems. We all must be proactive in outreach efforts to demonstrate that the public and our elected representatives that prescribed fire is the only practical (and rational) approach, and that given the latitude and legal protection to do so, fire managers have the will and skill to use fire in a safe and effective manner. It is now up to all of us to rise to the challenges ahead and to take action rather than hide from the challenge and risks and be reduced to simply reacting. The cost of no action is simply too great.

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### **List of Appendices:**

- A. Florida Prescribed Fire Act
- B. Florida Division of Forestry Rules and Regulations pertaining to fire
- C. Prescribed fire liability rules retained on U.S. forest land by state
- D. Sarasota County, Florida resolution supporting prescribed fire
- E. Sarasota County, Florida Notice of Proximity establishing smoke corridors
- F. Items to consider when drafting a prescribed fire statute

## **APPENDIX A: THE FLORIDA PRESCRIBED BURNING ACT. A MODEL STATE STATUTE TO PROTECT AND PROMOTE THE USE OF PRESCRIPTION FIRE.**

### **590.125 Open burng authorized by the division.—**

(1) DEFINITIONS.—As used in this section, the term:

- (a) “Prescribed burning” means the controlled application of fire in accordance with a written prescription for vegetative fuels under specified environmental conditions while following appropriate precautionary measures that ensure that the fire is confined to a predetermined area to accomplish the planned fire or land-management objectives.
- (b) “Certified prescribed burn manager” means an individual who successfully completes the certification program of the division and possesses a valid certification number.
- (c) “Prescription” means a written plan establishing the criteria necessary for starting, controlling, and extinguishing a prescribed burn.
- (d) “Extinguished” means that no spreading flame for wild land burning or certified prescribed burning, and no visible flame, smoke, or emissions for vegetative land-clearing debris burning, exist.

### (2) NONCERTIFIED BURNING.

(a) Persons may be authorized to burn wild land or vegetative land-clearing debris in accordance with this subsection if:

1. There is specific consent of the landowner or his or her designee;
2. Authorization has been obtained from the division or its designated agent before starting the burn;
3. There are adequate firebreaks at the burn site and sufficient personnel and firefighting equipment for the control of the fire;
4. The fire remains within the boundary of the authorized area;
5. Someone is present at the burn site until the fire is extinguished;
6. The division does not cancel the authorization; and
7. The division determines that air quality and fire danger are favorable for safe burning.

(b) A person who burns wild land or vegetative land-clearing debris in a manner that violates any requirement of this subsection commits a misdemeanor of the second degree, punishable as provided in s. 775.082 or s. 775.083.

### (3) CERTIFIED PRESCRIBED BURNING; LEGISLATIVE FINDINGS AND PURPOSE.

(a) The application of prescribed burning is a land management tool that benefits the safety of the public, the environment, and the economy of the state. The Legislature finds that:

1. Prescribed burning reduces vegetative fuels within wild land areas. Reduction of the fuel load reduces the risk and severity of wildfire, thereby reducing the threat of loss of life and property, particularly in urban areas.
2. Most of Florida’s natural communities require periodic fire for maintenance of their ecological integrity. Prescribed burning is essential to the perpetuation, restoration, and management of many plant and animal communities. Significant loss of the state’s biological diversity will occur if fire is excluded from fire-dependent systems.

3. Forestland and rangeland constitute significant economic, biological, and aesthetic resources of statewide importance. Prescribed burning on forestland prepares sites for reforestation, removes undesirable competing vegetation, expedites nutrient cycling, and controls or eliminates certain forest pathogens. On rangeland, prescribed burning improves the quality and quantity of herbaceous vegetation necessary for livestock production.
4. The state purchased hundreds of thousands of acres of land for parks, preserves, wildlife management areas, forests, and other public purposes. The use of prescribed burning for management of public lands is essential to maintain the specific resource values for which these lands were acquired.
5. A public education program is necessary to make citizens and visitors aware of the public safety, resource, and economic benefits of prescribed burning.
6. Proper training in the use of prescribed burning is necessary to ensure maximum benefits and protection for the public.
7. As Florida's population continues to grow, pressures from liability issues and nuisance complaints inhibit the use of prescribed burning. Therefore, the division is urged to maximize the opportunities for prescribed burning conducted during its daytime and nighttime authorization process.

(b) Certified prescribed burning pertains only to broadcast burning. It must be conducted in accordance with this subsection and:

1. May be accomplished only when a certified prescribed burn manager is present on site with a copy of the prescription from ignition of the burn to its completion.
2. Requires that a written prescription be prepared before receiving authorization to burn from the division.
3. Requires that the specific consent of the landowner or his or her designee be obtained before requesting an authorization.
4. Requires that an authorization to burn be obtained from the division before igniting the burn.
5. Requires that there be adequate firebreaks at the burn site and sufficient personnel and firefighting equipment for the control of the fire.
6. Is considered to be in the public interest and does not constitute a public or private nuisance when conducted under applicable state air pollution statutes and rules.
7. Is considered to be a property right of the property owner if vegetative fuels are burned as required in this subsection.

(c) Neither a property owner nor his or her agent is liable pursuant to s. 590.13 for damage or injury caused by the fire or resulting smoke or considered to be in violation of subsection (2) for burns conducted in accordance with this subsection unless gross negligence is proven.

(d) Any certified burner who violates this section commits a misdemeanor of the second degree, punishable as provided in s. 775.082 or s. 775.083.

(e) The division shall adopt rules for the use of prescribed burning and for certifying and decertifying certified prescribed burn managers based on their past experience, training, and record of compliance with this section.

(4) WILDFIRE HAZARD REDUCTION TREATMENT BY THE DIVISION.—The division may conduct fuel reduction initiatives, including, but not limited to, burning and mechanical and chemical treatment, on any area of wild land within the state which is reasonably determined to be in danger of wildfire in accordance with the following procedures:

- (a) Describe the areas that will receive fuels treatment to the affected local governmental entity.
  - (b) Publish a treatment notice, including a description of the area to be treated, in a conspicuous manner in at least one newspaper of general circulation in the area of the treatment not less than 10 days before the treatment.
  - (c) Prepare, and the county tax collector shall include with the annual tax statement, a notice to be sent to all landowners in each township designated by the division as a wildfire hazard area. The notice must describe particularly the area to be treated and the tentative date or dates of the treatment and must list the reasons for and the expected benefits from the wildfire hazard reduction.
  - (d) Consider any landowner objections to the fuels treatment of his or her property. The landowner may apply to the director of the division for a review of alternative methods of fuel reduction on the property. If the director or his or her designee does not resolve the landowner objection, the director shall convene a panel made up of the local forestry unit manager, the fire chief of the jurisdiction, and the affected county or city manager, or any of their designees. If the panel's recommendation is not acceptable to the landowner, the landowner may request further consideration by the Commissioner of Agriculture or his or her designee and shall thereafter be entitled to an administrative hearing pursuant to the provisions of chapter 120.
- (5) DUTIES OF AGENCIES.—The Department of Education shall incorporate, where feasible and appropriate, the issues of fuels treatment, including prescribed burning, into its educational materials.

## **APPENDIX B: FL DIVISION OF FORESTRY RULES AND REGULATIONS PERTAINING TO APPENDIX A**

### **5I-2.006 Open Burning Allowed.**

(1) Open Burning in General. Authorization must be obtained from the Florida Division of forestry for burns relating to agriculture, silviculture and pile burning on the same day the burn is to take place or after 4:00 p.m. of the previous day. The Division of Forestry will set special requirements for authorizations in order to protect public health and safety, including; on site inspections, restricting wind direction, limiting the burning period, halt or limit burning when fire danger is too high in all, or specific parts of the state, and requiring specific personnel and control equipment on site. Any authorized burn that goes out of compliance, but has not escaped the authorized area will be allowed a maximum of two hours to be brought into compliance by the person responsible. In the event that the Division determines that there is a threat to life, public safety or property, immediate suppression action will be taken by the Division of Forestry.

(a) Daytime Non-Certified Authorizations will be issued for the burning to be conducted from 8:00 a.m. CT or 9:00 a.m. ET and the fire must discontinue spreading one hour before sunset.

(b) Nighttime Non-Certified Authorizations will be issued with a Dispersion Index of 8 or above for the burning to be conducted between one hour before sunset and 8:00 a.m. CT or 9:00 a.m. ET the following morning. Ignition of these fires is authorized up to midnight CT or ET (specific to the time zone where the fire is located), however the fire can continue to spread until 8:00 am CT or 9:00 a.m. ET the following day. If additional time is required a new daytime authorization must be obtained from the Division.

(2) Open Burning for Certified Prescribed Burn Managers (CPBM). (All burning conducted under this section is related to broadcast burning for the purposes of; Silviculture, Wildlife Management, Ecological Maintenance and Restoration, Range and Pasture Management. Open burning authorizations under this section require the Certified Prescribed Burn Manager's certification number be presented at the time of the request, and that a Certified Prescribed Burn Manager be on site for the entire burn.

(a) Prescription. A prescription for the burn must be completed prior to any ignition and it must be on site and available for inspection by a Department representative. The prescription will contain, as a minimum, (unless agreed to in writing locally between the burner and the District or Center Manager of the Division of Forestry) the following:

1. Stand or Site Description;
2. Map of the area to be burned;
3. Number of personnel and equipment types to be used on the prescribed burn;
4. Desired weather factors, including but not limited to surface wind speed and direction, transport wind speed and direction, minimum mixing height, minimum relative humidity, maximum temperature, and the minimum fine fuel moisture;
5. Desired fire behavior factors, such as type of burn technique, flame length, and rate of spread;
6. The time and date the prescription was prepared;
7. The authorization date and the time period of the authorization;

8. An evaluation and approval of the anticipated impact of the proposed burn on related smoke sensitive areas;
9. The signature and number of the Certified Prescribed Burn Manager.

**(b) Open Burning Hours**

1. Daytime CPBM Authorizations will be issued for the burning to be conducted from 8:00 a.m. CT or 9:00 a.m. ET and the fire must discontinue spreading one hour after sunset.
2. Nighttime CPBM Authorizations will be issued with a Dispersion Index of 6 or above for the burning to be conducted between one hour before sunset and 8:00 a.m. CT and 9:00 a.m. ET the following day. Ignition of these fires is authorized up to midnight, however the fire can continue to spread until 8:00 a.m. CT and 9:00 a.m. ET the following day. If additional time is required a new authorization (daytime) must be obtained from the Division. The Division will issue authorizations at other times, in designated areas, when the Division has determined that atmospheric conditions in the vicinity of the burn will allow good dispersement of emissions, and the resulting smoke from the burn will not adversely impact smoke sensitive areas, e.g., highways, hospitals and airports.

**(c) Burn Manager Certification Process.** Certification to become a Certified Prescribed Burn Manager is accomplished by:

1. Satisfactory completion of the Division of Forestry's Prescribed Fire Correspondence Course and direct experience in three prescribed burns prior to taking the course or;
2. Satisfactory completion of the Division of Forestry's Prescribed Fire Classroom version of the Correspondence Course and a minimum of managing three prescribed burns prior to taking the course or;
3. Satisfactory completion of the Florida Inter-Agency Basic Prescribed Fire Course and direct experience in three prescribed burns following successful completion of the classroom training. The burns conducted during the training do not count as part of this three burn requirement.
4. Applicants must submit a completed prescription for a proposed certifying burn to their local Florida Division of Forestry office prior to the burn for review and approval, and have the burn described in that prescription reviewed by the Division of Forestry during the burn operation. The local Division of Forestry District Manager (or their designee) will recommend DOF Prescribed Burn Manager certification upon satisfactory completion of both the prescription and required number of burns.
5. In order to continue to hold the Division of Forestry Prescribed Burn Manager Certification the burner must comply with 51-2.006(2)(d), F.A.C., or Division Certification will terminate five years from the date of issue.

**(d) Certification Renewal.** A Certified Prescribed Burn Manager must satisfy the following requirements in order to retain certification.

1. Participation in a minimum of eight hours of Division of Forestry approved training every five years relating to the subject of prescribed fire, or participation in a Division of Forestry recognized Fire Council Meeting, and
2. The Certified Prescribed Burn Manager has submitted their certification number for two completed prescribed burns in the preceding five (5) years, or

3. Participation in five (5) burns and have this documented and verified in writing to the Forest Protection Bureau's Prescribed Fire Manager of the Division of Forestry by a current Certified Prescribed Burn Manager, or
4. Retaking either the Prescribed Fire Correspondence Course or the Inter-Agency Basic Prescribed Fire Course.

(e) Decertification. The Commissioner of Agriculture will revoke any Certified Prescribed Burn Manager's certification if they demonstrate that their practices and procedures repeatedly violated Florida law or agency rules or is a threat to public health, safety, or property. Recommendations for decertification by the Division of Forestry to the Commissioner of Agriculture will be based on the Certified Burner Violations—Point Assessment Table, effective July 1, 2003, which is incorporated by reference located at: [http://www.fl-dof.com/wildfire/wf\\_pdfs/CBMpoints.pdf](http://www.fl-dof.com/wildfire/wf_pdfs/CBMpoints.pdf).

**APPENDIX C. PRESCRIBED FIRE LIABILITY RULES RETAINED ON U.S. FOREST LAND BY STATE (FROM SUN [IN PRESS])**

| Strict Liability | Uncertain liability | Simple negligence | Gross negligence |
|------------------|---------------------|-------------------|------------------|
| Delaware         | Arizona             | Alabama           | Florida          |
| Hawaii           | Colorado            | Alaska            | Georgia          |
| Minnesota        | Connecticut         | Arkansas          | Michigan         |
| Pennsylvania     | Idaho               | California        | Nevada           |
| Rhode Island     | Illinois            | Kentucky          |                  |
| Wisconsin        | Indiana             | Louisiana         |                  |
|                  | Iowa                | Maryland          |                  |
|                  | Kansas              | Mississippi       |                  |
|                  | Maine               | New Hampshire     |                  |
|                  | Massachusetts       | New Jersey        |                  |
|                  | Missouri            | New York          |                  |
|                  | Montana             | North Carolina    |                  |
|                  | Nebraska            | Oklahoma          |                  |
|                  | New Mexico          | Oregon            |                  |
|                  | North Dakota        | South Carolina    |                  |
|                  | Ohio                | Texas             |                  |
|                  | South Dakota        | Virginia          |                  |
|                  | Tennessee           | Washington        |                  |
|                  | Utah                |                   |                  |
|                  | Vermont             |                   |                  |
|                  | West Virginia       |                   |                  |
|                  | Wyoming             |                   |                  |
| N =6             | N =22               | N =18             | N =4             |

**D. SARASOTA COUNTY, FLORIDA RESOLUTION SUPPORTING PRESCRIBED FIRE  
(ON FILE WITH SARASOTA COUNTY BOARD OF COUNTY COMMISSIONERS)**

RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS  
OF SARASOTA COUNTY, FLORIDA

RESOLUTION NO 97-265

RE: RESOLUTION IN SUPPORT OF PRESCRIBED BURNING

WHEREAS, The Environment Chapter of Apoxsee: The *Revised and Updated Comprehensive Plan Policy* 5.5.10. states that Sarasota County is to “maintain and promote rural and natural resource land management practices such as prescribed burning;” and

WHEREAS, The Recreation and Open Space Chapter of Apoxsee: The *Revised and Updated Comprehensive Plan Policy* 1.2.5. states that “natural area parks,” once acquired, “will be kept in their natural state, receiving maintenance according to normal practice associated with native habitats;” and

WHEREAS, The Florida Legislature enacted Chapter 590.026, Florida Statutes, that recognized the benefits of conducting prescribed burns; and

WHEREAS, prescribed burning is a critical resource management tool that when properly administered minimizes impacts on air quality, protects public safety and enhances scenic vistas; and

WHEREAS, a wide variety of ecosystems present within Sarasota County, many of which provide habitat for plants and animals classified as endangered, threatened or as species of special concern, require periodic burning to flourish; and

WHEREAS, prescribed burning reduces accumulated fuels and consequently lessens the likelihood and severity of uncontrolled and damaging wildfires; and

WHEREAS, rules governing open burning in Sarasota County require that proper authorization be obtained from the Florida Division of Forestry, Department of Agriculture and Consumer Services and the Sarasota County Pollution Control Division prior to conducting prescribed burns in Sarasota County;

**NOW THEREFORE BE IT RESOLVED** by the **BOARD OF COUNTY COMMISSIONERS OF SARASOTA COUNTY, FLORIDA**, in public meeting assembled that;

The Board of County Commissions officially supports the use of prescribed burning as a land management tool in Sarasota County.

**APPENDIX E. SARASOTA COUNTY FLORIDA COMPREHENSIVE LAND MANAGEMENT PLAN DISCUSSION OF PRESCRIBED FIRE, AND A RESULTANT “NOTICE OF PROXIMITY CONSERVATION EASEMENT” CALLED EXHIBIT A IN THE U.S. 41/BLACKBURN POINT ROAD VILLADE ACTIVITY CENTER SECTOR PLAN NO. 89-02-SP.WHICH PROVIDES SMOKE CORRIDORS THROUGH ADJACENT PROPERTIES WHEN USING PRESCRIPTION FIRE ON DESIGNATED STATE AND COUNTY LANDS.**

*Environment Chapter  
The Sarasota County Comprehensive Plan  
Page 2-1*

*The Importance of Fire as a Management Tool*

Very serious degradation of native plant and animal communities occurs when fire is suppressed in fire dependent habitats. Because frequent fire is essential to most native plant communities in Sarasota County, prescribed burning is now used, and has been used for generations by both preserve managers and ranchers to maintain pine flatwoods, scrub prairies and marshes. These plant communities are flammable by nature. When fire is intentionally excluded, fuels in the form of live and dead plant materials buildup, setting the stage for unintentional, often uncontrollable fires. Naturally occurring wildfires potentially threaten homes built in these areas. This is especially true as subdivisions are occurring in the rural and semi-rural areas.

Although residential destruction by wildfire in Florida is not as serious a problem as it is in western states, it is a reality. Since 1980, hundreds of Florida homes have been destroyed by wildfire. As in the recent history of North Port wildfires, these fires frequently start under conditions which are difficult to control; for example, during severe drought years. Prescribed ecological burning maintains native plant communities and reduces hazardous fuel accumulations.

Although an essential practice, prescribed burning must be regulated to minimize the impacts on surrounding land uses and residents. Burning impacts air quality as it releases particulates and carbon monoxide into the air. These impacts can be minimized through proper coordination with the Sarasota County Air Quality Monitoring Program which regulates open burning through Ordinance 72-37, as amended.

There is a growing conflict between rural land practices and suburban land uses. Recent development pressures in the rural areas of Sarasota County seriously threaten the continuance of prescribed burning and, thus, the maintenance of natural areas.

People who live and maintain farming operations in the rural areas may understand the role of fire in Florida's natural areas and may be tolerant of controlled burning. However people from urban and suburban areas may be less tolerant of nearby fire and smoke. Environmental education efforts should help to inform the public that prescribed burning is part of the character of Southwest Florida and Sarasota County, and essential to maintaining native plant communities.

To encourage the practice of prescribed burning and minimize its impacts on surrounding land uses, the County could recognize the concept of smoke management buffer zones; especially in the eastern portions of the County near Myakka River State Park, the T. Mabry, Carlton, Jr. Memorial Reserve, and surrounding ranchlands. A suggested smoke management zone would extend approximately two miles from the boundaries of areas that depend on prescribed burning for land and wildlife management practices. After smoke management zones are outlined, all development proposals (rezoning, DRI, and special exceptions) within these zones would include acceptance of occasional smoke, a pre-existing condition or character of the area, as a condition for approval.

Care taken to plan compatible development in smoke management zones and implementation of the above policy will help insure the future of the County's natural areas which are threatened by encroaching development restricting the necessary management practice of prescribed burning. As part of the management of conservation and preservation areas in urban and semi-rural settings, alternatives to prescribed fire should be researched and encouraged to maintain fire dependent communities.

EXHIBIT A

NOTICE OF PROXIMITY TO OSCAR SCHERER STATE  
RECREATION AREA/CONSERVATION EASEMENT

This Notice date this \_\_\_\_\_ day of \_\_\_\_\_, 199-, and entered into the public record by \_\_\_\_\_ and \_\_\_\_\_, as owners of the property described as:

SEE ATTACHED EXHIBIT I

(Insert description of subject property owned within U.S. 41/Blackburn Point Road Sector Plan No. 89-02-SP)

WHEREAS, it is the intent of this Notice to make known to the public-at-large that the property described in Exhibit "I" attached hereto is located in close proximity to the property known as the Oscar Scherer State Recreation Area/Conservation Easement

WHEREAS, it is further the intent of this Notice to advise potential tenants and purchasers of subdivided property located within the boundaries of the property described in Exhibit "I" attached hereto, that said property is in close proximity to the Oscar Scherer State Recreation Area/Conservation Easement.

NOW, THEREFORE, the general public and those parties specifically purchasing or leasing property within the area described in Exhibit "I" attached hereto are hereby notified that:

1. The subject property described in Exhibit "I" attached hereto is located in close proximity to the Oscar Scherer State Recreation Area/Conservation Easement.

2. This Notice is to further advise potential purchasers or tenants of property described in Exhibit "I" attached hereto that the proximity to the Oscar Scherer State Recreation Area/Conservation Easement may result in said purchasers or tenants being affected by: continuing current resource management practices to include but not be limited to ecological burning, pesticide usage, exotic plant and animal removal, usage of heavy equipment and machinery and other practices as may be deemed necessary for the proper management of the Oscar Scherer State Recreation Area/Conservation Easement.

3. The nature and extent of the effects of the operations of the Oscar Scherer State Recreation Area which shall include: All management practices as contained within the document entitled "Ecological Burn Plan Oscar Scherer State Recreation Area" adopted on April 3, 1990, and which may be amended from time to time.

4. All property owners which take title to property within the boundaries as described in Exhibit "I" attached hereto, or tenants who may occupy the premises within the boundaries described in Exhibit "I" attached hereto, shall be deemed to have constructive knowledge of this Notice due to its recordation in the Public Records of Sarasota County, Florida, and further shall be deemed to have consented to said resource practices, including ecological burning, pesticide usage, exotic plant and animal removal, usage of heavy equipment and machinery and other practices as may be deemed necessary for the proper management of the Oscar Scherer State Recreation Area/Conservation Easement by the recording of a Warranty Deed or other instrument of conveyance, conveying the property within the boundaries in Exhibit "I" attached hereto, or by executing an occupancy agreement and delivering same to the owner of property contained within the boundaries of the property described in Exhibit "I", their successors or assigns.

IN WITNESS WHEREOF, the owners have hereunto set their hands and seals this \_\_\_\_ day of \_\_\_\_\_, 199-.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

STATE OF FLORIDA  
COUNTY OF SARASOTA

I HEREBY CERTIFY that on this day before me, an office duly qualified to take acknowledgments, personally appeared \_\_\_\_\_ and \_\_\_\_\_, to me known to be the persons described in and who executed the foregoing instrument and acknowledged before me that they executed same.

WITNESS my hand and official seal in the County and State last aforesaid this \_\_\_\_ day of \_\_\_\_\_, 199-.

\_\_\_\_\_  
NOTARY PUBLIC

My Commission Expires:  
(NOTARY SEAL)

093-007

## **APPENDIX F. ITEMS TO CONSIDER WHEN DRAFTING A STATUTE TO PROTECT AND FACILITATE THE INTENTIONAL USE OF FIRE.**

1. Require an authorization or permit to conduct any free-spreading outdoor fire. Require and keep information on every requested burn including the purpose and size of the intended burn
2. Provide help in planning and executing burns
3. Provide standby during a burn as available
4. Clearly state that the intentional use of fire is a landowner right and, because it benefits the environment, society in general, and the economy of the state, it can't be declared a public nuisance
5. Authorize the state agency responsible for fire management (rather than the state agency responsible for air quality) to take the lead in formulating and enforcing smoke management guidelines
6. Not place any arbitrary time of day, day of the week, or holiday restrictions on when burning can occur. Such decisions should be based on measurable environmental conditions.
7. Develop a burner certification program with incentives that give such burners a higher level of liability protection and more leeway in the execution of burns under their direct supervision. Also develop re-certification procedures
8. Consider tax incentives for ecosystems maintained with the judicious use of fire
9. Include language that provides personnel from other organizations and states assisting in fire management operations at least the same level of protection their home organization/state provides in case of an accident
10. Provide wildland fire suppression equipment and more training for Volunteer Fire Departments
11. Supplement equipment that is no longer available from pulp and paper companies
12. Enhance fire prevention and *FireWise* outreach efforts
13. Make it a punishable offence if a landowner is asked to, but refuses to manage his fuels and a fire starts on his property, regardless of the cause, leaves his property, and damages the property of others
14. State unequivocally that suppression forces do not have to attempt to suppress fires on property where the owner has refused to manage fuel loads
15. Invest in continued training for fire staff. Facilitate their attendance at training and refresher courses on agency time, even if out-of-state and reimburse them for expenses
16. Provide funds to keep fire equipment up-to-date and well-maintained.
17. Provide personal protective gear for all fire staff and include language to make all other state agencies with fire staff to do the same. Make its use mandatory on all fires
18. Provide funds to enter into an agreement to have a state meteorologist provide daily fire danger forecasts and timely spot weather forecasts for complex burns upon request. Require and fund training and expose them to operational fires so they can hone their skills. Several southern state forestry agencies have their own forest meteorologist, or pay a neighboring state that has one, to handle their fire meteorology duties

19. Include language to try to protect fire staff and scheduled equipment replacement during tight budgets. Clearly identify fire staff as 1<sup>st</sup> responders in natural disasters and other emergencies. Train all fire staff on the Incident Command System (ICS) and require its use statewide in emergencies
20. Facilitate formation of a fire council, fund development and maintenance of a web site for it, encourage fire staff to attend and assume leadership roles on agency time, and reimburse them when they do.
21. Encourage the development of incentives to retain experience and to reward people who successfully accept these risks associated with burning.