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# Controlled Burning On Private Land In New Mexico

A FOREST STEWARDS GUILD REPORT IN PARTNERSHIP WITH PROMISE PCES LLC

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# **Executive Summary**

A century of fire exclusion has negatively impacted fire-adapted ecosystems across New Mexico. One significant impact is the increasing prevalence of uncharacteristically large, severe fires, which threaten lives, property, clean water, wildlife, and forests. Reducing the density and connectivity of trees can reduce wildfire severity and make fires easier to manage. However, the pace and scale of forest management needs to increase in order to meet the threat of large, high severity wildfires, particularly in the wildland-urban interface and on private lands.

Controlled burning (igniting vegetation under prescribed conditions within a defined area carefully supervised by qualified wildland fire professionals) addresses both the need to reduce the threat of wildfires and the need to return a crucial ecological process. Controlled burning is more complex in the wildland-urban interface (WUI) where homes are interspersed in the forest. Liability and insurance for controlled burning on private land is one element that makes working in the WUI more difficult.

This paper reviews some of the key organizational and legal issues that create barriers to controlled burning in New Mexico. This review has identified a number of opportunities and practices to increase controlled burning such as:

- Conduct controlled burns across ownerships to increase the positive impact of fuel reduction, increase efficiency, and enhance safety;
- Partner with neighbors on controlled burns to forge good working relationships, share expertise, and build trust;
- Expand the pool of qualified controlled burners through Prescribed Fire Training Exchanges and other training opportunities;
- Expand the insurance options for controlled burners in New Mexico;
- Move New Mexico from an uncertain liability definition for controlled burns to a simple negligence definition; and
- Reexamine New Mexico's anti-donation clause and explore options that would, similar to other western states, allow state agencies to engage more fully in controlled burning;

Controlled burning is a crucial part of the solution to the increase in wildfires that put forests and communities at risk. In addition, private lands need to be part of the expansion of controlled burning in New Mexico. In 2010, the Statewide Forest Assessment for New Mexico identified 7.3 million acres of privately owned forestland and many millions of acres more privately owned grassland and savanna. These private lands are part of the WUI or enmeshed in the management landscape of federal, tribal, and state lands. Since most of New Mexico's forest, grassland, and savanna ecosystems are fire dependent, controlled burning needs to be part of private land management.



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## Background

#### Ecology Interrupted

Fire is a primary natural disturbance in most forests of western North America and has shaped their plant and animal communities for millions of years. Fires provide important services such as recycling nutrients, regulating the density and species composition of young trees, and creating and shaping wildlife habitat at a variety of scales. Native plant and animal species are adapted to local fire regimes (return intervals, and the spatial extent and severity of natural fire patterns) and suffer adversely with fire exclusion. For example, ponderosa pine forests in New Mexico have adapted to frequent, low severity fires.<sup>1, 2</sup> These fires limited the survival of tree seedlings and shrubs as well as the accumulation of forest litter and debris. Ponderosa pine forests were open with an understory of diverse grasses and forbs - often described as 'parklike'. Natural fires began to be excluded from these forests as road building and cattle grazing disrupted the continuity of surface fuels. These land management practices coupled with fire suppression led to the exclusion of fire for much of the twentieth century. Fire exclusion allowed tree seedlings to survive in unprecedented numbers as well as allowing the accumulation of uncharacteristic depths of litter and dead vegetation. Forests that were once open closed under a dense canopy of young trees. The closed, crowded forest served as a barrier to both sunlight and moisture while increasing competition for both. Overcrowding and a lack of adequate light and moisture significantly reduced the health and vigor of the forest, stream flows, and wildlife habitat.

#### A new kind of fire in the West

In the Southwest, the fires that used to burn through grasses and litter with low severity are now fueled by hundreds of tons of continuous forest and debris. These wildfires burn at high severity, killing extensive swaths of forest, burning deeply into the soil, and affecting the productivity and ecology of the forest for decades to come. Recent examples of these large, high severity fires (often call megafires) include the 2002 Rodeo-Chediski and the 2011 Wallow fires, each of which burned more than a half-million acres. This increase in uncharacteristic large and severe wildfires in the West is exacerbated by changing climate.<sup>3</sup> The imminent threat large, high severity fires of wildfires and make communities safer.

#### Scaling up restoration and fuels reduction

Extensive research and wildfires themselves have shown that forest management actions that reduce the density and connectivity of trees can reduce wildfire severity and make them easier to control, even under extreme conditions.<sup>4, 5</sup> In general, treatments that include both thinning and surface fuel reduction are the most effective at moderating wildfire behavior.<sup>6-8</sup> In fact, thinning without treating the slash or debris produced by the thinning can result in fire behavior that is more extreme than in untreated areas.<sup>9, 10</sup> To meet the growing wildfire threat, the pace and scale of fuel treatments need to increase<sup>11-13</sup> and the use of controlled burning is a critical management tool in this effort. A recent study focused in northern California found that across this area annual applications of prescribed fire cover only 38% of the area needed to meet land management objectives and two- thirds of managers were dissatisfied with the current level of activity.<sup>14</sup>



#### Fire as a management tool

Forests in New Mexico are not only adapted to fire, they need fire to remain healthy. Reintroduction of fire to fire-adapted forests often results in resurgence in some native plants absent or uncommon in untreated forests.<sup>15</sup> A natural fire regime can also help trees survive drought.<sup>16, 17</sup> Controlled burning addresses both the need to reduce the threat of wildfires and the need to return a crucial ecological process to fire adapted forests. Simply put, a controlled burn is when land managers ignite vegetation only under certain prescribed environmental conditions (temperature, humidity, wind speed, etc.) within a certain area with sufficient and qualified wildland fire professionals and equipment. Research has shown that controlled burning at ecologically appropriate intervals can reduce the threat of high severity wildfire.<sup>18, 19</sup> Controlled burning is usually the most cost effective tool to reduce surface fuels, particularly over large areas.<sup>20, 21</sup> Nationally, controlled burning is an essential tool in the reduction of hazardous fuels and an average of 2.2 million acres are treated with prescribed fire annually.<sup>22</sup>

#### Wildland Urban Interface (WUI)

One area where controlled burning is particularly complex is the Wildland Urban Interface (WUI), where wildlands, homes, and communities, and community values intersect. The most recent assessment estimated 44 million houses and 99 million residents in the WUI.<sup>23</sup> Not only is the WUI in the U.S. extensive, but it is growing rapidly. The WUI is often dominated by private lands but can also include tribal, state, municipal, and federal lands. The WUI area in the conterminous U.S. grew by nearly 20 percent during the 1990s<sup>24</sup> and about seven percent between 2000 and 2010.<sup>25, 23</sup> Wildfires that burn onto private land have higher suppression costs<sup>26</sup> and suppression of wildfires near homes costs more than suppression in the forest far from homes.<sup>27</sup>

#### Fire Adapted Communities

Given the increasing costs and losses from wildfires and expansion of the WUI, agencies are focusing more and more on the concept of helping communities live with fire.<sup>28</sup> Recent federal efforts such as the National Cohesive Wildland Fire Management Strategy<sup>29</sup> acknowledge the need for communities and wildfire to coexist. The Cohesive Strategy emphasizes that wildfire is unavoidable and communities must be fire-adapted. The fire-adapted communities concept integrates ongoing efforts to mitigate wildfire hazard in the WUI and acknowledges fire as part of the natural landscape. <sup>30</sup> Prescribed burning is a critical tool for WUI communities to reduce hazardous fuels and maintain mechanical treatments.

#### Maintenance

One of the biggest challenges facing land managers and communities is the maintenance of treatments and home mitigation efforts. Fire hazard reduction is not a onetime task. Forest fuel reduction treatments only affect fire behavior until trees and vegetation grow back. In ponderosa pine or mixed conifer forests, fuel reduction treatments are likely to require some sort of maintenance within ten years.<sup>2, 6</sup> Controlled burning may be particularly useful as communities move toward maintenance of initial treatments.

#### Impediments to Controlled Burning on Private Lands

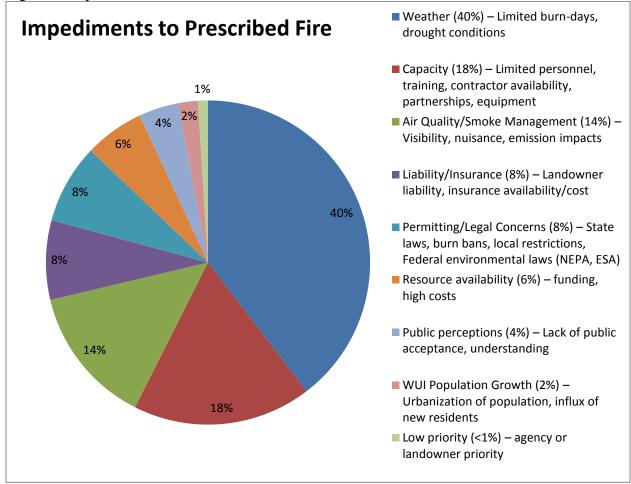
Even where land managers and the public support an increase in controlled burning to reduce the threat of wildfires and make forests healthier a range of constraints limit controlled burning,



particularly in the WUI. <sup>31</sup> One key challenge is the WUI is made up of small parcels and dominated by private land. Small parcels make controlled burning more difficult, and burning on private land means more complex liability and insurance issues. Even where private land is not in the WUI, such as inholdings in a national forest, liability and insurance questions arise. Wildfire policies recognize that fire and the need for restoration of natural systems cut across jurisdictional boundaries. As the National Interagency Fire Center states: "Wildland fire recognizes no ownership or jurisdictional boundaries on the landscape; nor do the complex issues of fire management. As a result, perhaps nowhere is the practice of interagency and interdepartmental cooperation so prevalent and effective as in the nation's wildland fire community."<sup>32</sup>

In general, the real and perceived barriers to the use of prescribed fire vary significantly between regions. For example a survey of state forestry agencies found that implementation capacity and weather are top impediments shared by the northeastern and the western US, while liability is a greater concern in the southeast.<sup>33</sup> This survey asked respondents to identify their top three impediments to the use of prescribed fire which are shown in Figure 1.





#### Figure 1. Impediments to Prescribed Fire based on data from Melvin 2015

A similar survey of state fish and wildlife agencies identified barriers to their ability to burn on private lands including liability/legal issues, concerns about smoke management, unsuitable weather conditions during burning windows, lack of trained personnel, and lack of funding as significant barriers.<sup>34</sup> A survey of prescribed fire professionals found budget and staffing limited public lands managers while liability as a key challenge for private individuals.<sup>35</sup>



# Liability, Insurance, and Legal Concerns

A clear, secure legal framework is essential to a substantive, comprehensive, and sustained increase in controlled burning on private land.

#### How Is Liability Defined?

The definition of liability for controlled burning in the tort statutes of individual states vary considerably across the nation. There are four general categories shown in Table 1.<sup>36</sup>

Туре	Description	States
Strict Liability	Under this definition prescribed fire is considered an "ultra-hazardous activity", should the activity cause any injury, the person who engaged in the activity will always be held liable regardless of precautionary measures.	DE, HI, MN, PA, RI, WI
Simple Negligence	This rule of negligence requires the plaintiff to prove harm, causation, and breach of a duty (i.e., fault). Unlike a rule of strict liability, a negligence rule permits the defense that the accident occurred in spite of the fact that the defendants satisfied all the applicable standards of care. As a result, a negligence rule may allow the defendant to reduce or even avoid the liability.	AL, AK, AR, CA, KY, LA, MD, MS, NH, NJ, NY, NC, OK, OR, SC, TX, VA, WA
Gross Negligence	Gross negligence is the lack of even slight care and the intentional failure of a defendant to carry out a duty toward others or their property in a reckless disregard of the consequences of his activity. Compared to simple negligence, gross negligence needs to show slight diligence and entails a much smaller amount of carefulness and circumspection. The standard of care for gross negligence is much lower than that for simple negligence. Thus it dramatically reduces the burden on the defendant (i.e., landowner or burner in the case of prescribed fires).	CO, FL, GA, MI, NV
Uncertain Liability	Simply meaning that specific statutes about prescribed fires and its liability have not been defined in statute. Common laws usually are followed to assign liability. Outcomes typically fall between strict liability and simple negligence.	AZ, CT, ID, IL, IN, IA, KS, ME, MA, MO, MT, NE, NM, ND, OH, SD, TN, UT, VT, WV, WY

South Carolina's Prescribed Fire Act (amended 2012) is an example of simple negligence and states:

48-34-50. Liability protection unless negligence proven.

No property owner or lessee or his agent or employee conducting a prescribed fire pursuant to this chapter is liable for damage, injury, or loss caused by fire, resulting smoke, or other consequences of the prescribed fire unless negligence is proven.



In 1999, Florida modified its simple negligence rule contained in the 1990 Prescribed Burning Act into a gross negligence rule.<sup>37</sup> At present, in Florida, a property owner or his agent is not liable for damage or injury caused by the fire or resulting smoke unless gross negligence is proven. Similarly, Georgia adopted simple negligence rule in 1992 and gross negligence rule in 2000. Michigan adopted simple negligence rule in 1995 and gross negligence rule in 2005. In 2013, Colorado passed a prescribed fire act that includes a gross negligent rule without first passing a simple negligence rule.<sup>36</sup> The difference in the level of investment, activity and cooperation in the southeast can be attributed to many factors but the programs and relationships have been built over decades and the laws and liability definitions were recognized as a critical component to meeting regional ecological and protection goals.

#### How Do Laws Relate To Liability?

All states that have simple or gross negligence definitions for liability for prescribed burners do so within a statute governing prescribed burning. Generally simple and gross liability definitions are tied to regulations and requirements that must be adhered to in order to enjoy the liability protections. Environmental regulations are typically technology based (focusing on specific instruments or technologies to be used) or performance based (focusing on the accomplishment or output).<sup>38</sup> However, existing prescribed burning regulations are management based regulations, which focus on planning and implementation stages with less emphasis on specific outcomes. <sup>38</sup> Management based regulations for prescribed burning emphasize the process of identifying and reducing risk rather than a specific outcome. For example, a management based regulation for prescribed burning might require strict adherence to a burn plan rather than setting specific times for ignition.

## Certified controlled burners

In some states, liability protection is offered to individuals upon completion of a certified burner program. This is the case in Colorado's recently passed prescribed burning act. The act does not require private landowners to obtain any certification in order to conduct prescribed fire on their own property, but limited civil liability protection is offered to any landowner certified by the state's Fire Prevention and Control Division as a Certified Burner or qualified under National Wildfire Coordinating Group (NWCG) standards.<sup>39</sup> Requirements to become a certified burner vary considerably between states, with many states not connected to NWCG standards. A review of certified burner requirements in southern states shows most require at least an eight hour class and up to 32 hours of course work.<sup>40</sup> Most southern states require direct experience on controlled burns and some require continuing education credits to maintain certification.

#### Successful private lands controlled burning programs

Controlled burning programs for private landowners in the southern states are generally held up as models for other regions. These programs vary measurably between these states and tailoring programs to the needs of a particular state may be a key element of their success. However, there are notable commonalities across the region. Generally, successful programs are supported by a combination of state agencies, the state's cooperative extension service, state universities, and other groups (e.g, The Nature Conservancy and Longleaf Pine Stewardship Fund). Where burning on private land is part of broader public benefit such as restoring habitat and ecology, more resources are available and more cross boundary collaboration occurs. In general, southeastern states have requirements for qualifications and planning that must be met to enjoy



the benefits of liability protection. This ensures participation in training and certification. The investment of time and fees to earn and maintain burner certification may provide an incentive for managers to put fire on the ground and enjoy the value of their investment. Prescribed burning associations (PBAs) formalize collaborations and permit organizations and individuals to share equipment, resources, and personnel for controlled burns more easily.<sup>41</sup> PBAs have been formed at various scales including local, county, or multi-county.<sup>42</sup> PBA can help managers work around weather constraints by deploying PBA resources to parcels best suited for a controlled burn on a particular mobilization day. Insurance may also be more affordable for landowners if acquired through a PBA group discount.<sup>42</sup>

PBA groups burn together which enables them to burn more land and more frequent. Another piece to this puzzle that increases controlled burning is when federal, state, non-governmental organizations, tribes, and local and county fire departments burn together. This is often accomplished through the establishment of agreements that allow these actions to occur. Federal and state agencies can use the Good Neighbor or the Wyden Authorities. In the Southeastern US, multi-agency groups mobilize during burn season and travel throughout their landscapes burning across multiple jurisdictions.

#### Liability and Legal Issues in New Mexico

In New Mexico, the most current resource assessment for the state and private lands notes that the current need for forest management actions far exceed the existing capacity and includes the importance of prescribed fire as a cost effective tool for restoring and maintaining ecosystems.<sup>43</sup> The assessment cites liability as a barrier to the use of fire by private land owners and that multiple small land owners are an impediment to comprehensive planning at a landscape scale:

Prescribed fire is one of most cost efficient tools for restoring and maintaining functioning systems. However, reluctance of the insurance industry to enter into the prescribed fire liability insurance market because of a perceived high degree of risk makes application of prescribed fire by private landowners extremely difficult. Lack of infrastructure and other industry support also limits the state's ability to move economically marginal material out of the forest.<sup>43</sup>

#### Laws in New Mexico related to controlled burning

There are two statutes that apply to controlled burning: NMAC 20.2.60.11 (Open Burning of Vegetative Material) applies to the open burning of non-piled vegetative material not to exceed ten acres per day or piled material not to exceed 1000 cubic feet per day. This regulation addresses location, timing, materials and notification. 20.2.65 NMAC (Smoke Management) applies to burning in excess of these amounts. This regulation addresses location, timing, materials, notification, and also includes smoke permitting, registration, tracking, reporting and monitoring requirements. These regulations do not include any certification, experience or other requirements related to managing prescribed fire. Oversight and enforcement for both of these statutes is under the jurisdiction of the New Mexico Environment Department, Air Quality Bureau. Oversight of Wildland Fire Management (including providing technical support for prescribed burning) is under the jurisdiction of the New Mexico Energy, Minerals, and Natural Resources Department, State Forestry.



#### Uncertain Liability in New Mexico?

The category of liability is key to the use of prescribed fire on private lands. New Mexico is one of the 22 states with uncertain liability; prescribed fire liability is not defined in New Mexico state statute. Uncertain liability places more liability on the person or organization conducting the controlled burn. The uncertain liability definition deters controlled burning because even if applicable standards of care are used, controlled burners are potentially liable for damages due to an accident.

Uncertain liability in New Mexico not only deters landowners from using prescribed fire as a tool but may also limit federal funding available to use prescribed fire on private land. For example; in 2016 the Wildfire Risk Reduction for Rural Communities Grant Program request for proposals in New Mexico included that, "Prescribed burning of any type including, but not limited to, broadcast burns, pile burns, understory burns, etc. is explicitly excluded as an approved practice through this grant program." Funding for this program is provided by the National Fire Plan through the Department of the Interior/Bureau of Land Management (BLM) in cooperation with New Mexico Association of Counties. The program targets at-risk communities by offering seed money to help defray the costs of reducing wildland fire risk to non-federal wildland urban interface areas in New Mexico.

In Idaho (which also has uncertain liability definitions for prescribed burning), the same funding source allowed prescribed fire in proposals but included strict language on liability and requirements for liability insurance. The requirements include the purchase of a minimum limitation of one million dollars (\$1,000,000.00) per person for any one claim, and an aggregate limitation of three million dollars (\$3,000,000.00).

Uncertain liability may preclude the acquisition of appropriate prescribed fire insurance. Outdoor Underwriters, one of only a few underwriters that provide prescribed fire products to private land owners including "per burn" products, will not underwrite a project in a state without a prescribed fire law that defines liability as simple or gross negligence.<sup>44</sup> Organizations and contractors that are burning on private lands do so with insurance coverage but cite either limited options for acquiring insurance and concerns regarding liability as challenges to implementation. It should also be mentioned that typically courts side towards simple negligence where liability definitions are not determined.<sup>45</sup> However, "reasonable care" is subjective without the presence of standards that demonstrate what is reasonable and under what circumstances.

The New Mexico Prescribed Fire Council (NMPFC) has made state laws and controlled burning liability on private land a key topic in recent workshops (e.g., July 2016 in Chama; February, 2016 in western New Mexico; and October 2015 in Capitan). Recommendations from the chair of the NMPFC to build the capacity for controlled burning and increase its use on private lands in New Mexico include changes in the tort statutes defining the liability for land owners using prescribed fire.<sup>41</sup> To date there have been no changes to these laws or any effort to initiate such a change. However, the NMPFC has begun an outreach program to introduce the council to state legislators and lay the foundation for productive interaction on this issue.



#### New Mexico's anti-donation clause

The anti-donation clause in New Mexico's constitution is often cited as a factor limiting New Mexico State Forestry's (NMSF) support to private landowners. The anti-donation clause is extremely broad, stating:

Neither the state nor any county, school district or municipality, except as otherwise provided in this constitution, shall directly or indirectly lend or pledge its credit or make any donation to or in aid of any person, association or public or private corporation or in aid of any private enterprise for the construction of any railroad.

One effect of the anti-donation clause is to dampen public/private collaboration to address land management issues. The anti-donation clause is often cited as limiting New Mexico State Forestry's support to private landowners to "technical support" often in the form of providing guidance in a media that is publicly available (not specific to any landowner). Funding available to support private landowners in developing and carrying out stewardship plans is federally sourced funding which is awarded by the state. State funds are only awarded to projects being carried out on Tribal or public lands.

There have been several amendments of the clause over the years, the most recent in 1994 with the passage of the Local Economic Development Act, which provided an exemption from the act for certain economic development activities.<sup>46</sup> In the same way, an exception to the anti-donation clause could be considered in the development of a prescribed fire statute, given the degree of societal benefit that is derived from addressing forest health issues across public/private land jurisdictions. Such an exception would provide an avenue for NMSF to provide the type of leadership and oversite typical of other states with active prescribed burning programs on private lands.

It is worth noting that a very similar anti-donation clause in the Colorado constitution was softened by a state Supreme Court decision. In 1955 a decision by the Colorado Supreme Court (McNichols v. Denver), declared that the Colorado clause only meant that public funds had to be spent for a public purpose.<sup>46</sup> Perhaps a similar case could lead to a similar decision by the New Mexico Supreme Court.

#### Increasing controlled burning on private lands in New Mexico

Controlled burning is crucial to restore fire adapted forests and protect communities from new mega-fires (see Background). In New Mexico, there are significant limitations to the use of controlled burning, particularly on private lands. However, New Mexico also has opportunities to expand safe, effective controlled burning. Forest Stewards Guild and Promise PCES arrived at these recommendations based on our combined experiences in wildland fire. Promise PCES brings decades of wildland fire experience. The Forest Stewards Guild has planned and conducted multiple controlled burns on private and state lands in New Mexico's wildland-urban interface. The Guild and Promise PCES worked together to combine this first-hand experience with a literature review to better understand the barriers and opportunities for controlled burning on private lands in New Mexico.



Private land parcels are generally smaller than federal management units so burning across fence lines is important. While in some cases adjacent owners may not want to extend a controlled burn onto their property, often a simple inquiry can build a partnership to burn across a property line. Working together across property lines can increase the positive impact of fuel reduction, increase efficiency and safety, and even reduce the complexity of a controlled burn. Burning across multiple ownerships is particularly advantageous in the WUI where parcels are small.

#### Burning together

Extending controlled burns across property lines requires working with neighbors including private land owners, state agencies, land grants, tribes, or federal managers. In addition to the advantages of more effective and efficient controlled burns, partnering with neighbors helps forge good working relationships, share expertise, and build trust. Federal agencies like the BLM and Forest Service along with NM State Forestry and local non-governmental organizations can play a larger role in New Mexico, through the use of agreements, to expand the use of controlled burning. Collaborative controlled burns are becoming more common and have shown positive ecological and institutional results.<sup>47, 48</sup> Working together means being aware of the strengths and limitations of each organization or individual and putting extra effort into clear respectful communication so that everyone benefits and burns safely. Creation of a prescribed fire association (PBA) for a particular area could help formalize collaborative burning in New Mexico.

#### Building capacity

Collaborative burning is an important way to expand the pool of qualified controlled burners. For example, the Prescribed Fire Training Exchanges bring together controlled burners both to implement prescribed fire, but also to advance their qualifications.<sup>49</sup> Working together can overcome personnel limitations of a single agency or organization in the short term, and develop the next generation of controlled burners. Building capacity can also mean increasing the experience with controlled burns. Working on more controlled burns in different locations and under different conditions helps managers learn how to take advantage of weather or resource conditions that might otherwise limit prescribed fire.

## Expanding insurance options

Well qualified controlled burners, particularly burn bosses, are crucial to securing appropriate insurance for prescribed fire. Burn bosses need to carry insurance appropriate to the type of fire they are leading. Insurance that covers damages from smoke and fire is an important element to consider. Expanding the insurance options for controlled burners in New Mexico would increase the beneficial use of fire in the state. A combination of dialog with insurers and the creation of PBAs to access group discounts could make insurance more affordable and effective for controlled burns.

## Changing the liability definition in New Mexico

The current uncertain liability definition for controlled burns in New Mexico is a significant barrier in the use of fire on and near private land in the state. A new state statute that moves New Mexico to the simple negligence category would support an expansion in the use of fire on private lands and could expand the ecological and community protect benefits of prescribed fire.



Simple negligence requires the plaintiff to prove harm, causation, and fault on the part of the controlled burner. Simple negligence permits a defense that the accident occurred even though the controlled burner followed all applicable standards of care and hence may allow the defendant to reduce or even avoid liability.<sup>36</sup>

#### Rethinking the anti-donation clause

An amendment or reinterpretation of New Mexico's anti-donation clause would allow NMSF to engage more fully in controlled burning and other hazardous fuels reduction activities on private lands. An exception to the anti-donation clause could be considered because of the societal and ecological benefit from expanding forest management activities, including controlled burning, on private land. It may also be possible to use the example of Colorado and work within the legal system to clarify that public funds must be spent for a public purpose. Changes to the antidonation clause would allow NMSF to provide prescribe fire leadership typical of other states with active prescribed burning programs on private lands.

#### Conclusion

New Mexico needs more controlled burning. Prescribed fire has to be part of the solution to the increase in wildfires that put forests and communities at risk. Private lands need to be part of the expansion of controlled burning. Excluding private lands and WUI areas from the expansion of controlled burning would exclude many communities from the benefits of prescribed fire. While there are barriers to controlled burning, particularly on private lands and in the WUI, New Mexico also has a committed community of professionals dedicated to restoring forests and protecting communities through controlled burning. Working across property boundaries, burning collaboratively, building capacity, expanding the insurance options, and changing the liability definition would all contribute to more controlled burning and a safer, healthier New Mexico.



## References

- Allen, C. D., M. Savage, D. A. Falk, K. F. Suckling, T. W. Swetnam, T. Schulke, P. B. Stacey, P. Morgan, M. Hoffman, and J. T. Klingel. 2002. Ecological Restoration of Southwestern Ponderosa Pine Ecosystems: A Broad Perspective. *Ecological Applications* 12(5):1418-1433. <u>http://wwwpaztcn.wr.usgs.gov/fire/ponderosa\_rest.pdf</u>
- 2 Hunter, M. E., W. D. Shepperd, J. E. Lentile, J. E. Lundquist, M. G. Andreu, J. L. Butler, and F. W. Smith. 2007. A Comprehensive Guide to Fuels Treatment Practices for Ponderosa Pine in the Black Hills, Colorado Front Range, and Southwest. RMRS-GTR-198, USDA Forest Service, Rocky Mountain Research Station, Fort Collins, CO.
- 3 Abatzoglou, J. T., and A. P. Williams. 2016. Impact of Anthropogenic Climate Change on Wildfire across Western Us Forests. *Proceedings of the National Academy of Sciences*. <u>http://www.pnas.org/content/early/2016/10/05/1607171113.abstract</u>
- 4 Prichard, S. J., and M. C. Kennedy. 2013. Fuel Treatments and Landform Modify Landscape Patterns of Burn Severity in an Extreme Fire Event. *Ecological Applications* 24(3):571-590. <u>http://dx.doi.org/10.1890/13-0343.1</u>
- 5 Kalies, E. L., and L. L. Yocom Kent. 2016. Tamm Review: Are Fuel Treatments Effective at Achieving Ecological and Social Objectives? A Systematic Review. Forest Ecology and Management 375:84-95.

http://www.sciencedirect.com/science/article/pii/S0378112716302626

- 6 Evans, A. M., R. Everett, S. Stephens, and J. Youtz. 2011. A Comprehensive Guide to Fuels Treatment Practices for Mixed Conifer Forests: California, Central and Southern Rockies, and the Southwest. Forest Guild, Santa Fe, NM. http://www.forestguild.org/mixed\_conifer/one\_pager.pdf
- 7 Collins, B. M., H. A. Kramer, K. Menning, C. Dillingham, D. Saah, P. A. Stine, and S. L. Stephens. 2013. Modeling Hazardous Fire Potential within a Completed Fuel Treatment Network in the Northern Sierra Nevada. *Forest Ecology and Management* 310(0):156-166. <u>http://www.sciencedirect.com/science/article/pii/S0378112713005422</u>
- 8 Martinson, E. J., and P. N. Omi. 2013. Fuel Treatments and Fire Severity: A Meta-Analysis. RMRS-RP-103WWW, USDA Forest Service, Rocky Mountain Research Station, Fort Collins, CO.
- 9 Stephens, S. L. 1998. Evaluation of the Effects of Silvicultural and Fuels Treatments on Potential Fire Behaviour in Sierra Nevada Mixed-Conifer Forests. *Forest Ecology and Management* 105:21-35. <u>http://www.cnr.berkeley.edu/stephens-</u> lab/Publications/Stephens%20silv%20fire%20model%20FEM%2098.pdf
- 10 Innes, J. C., M. P. North, and N. Williamson. 2006. Effect of Thinning and Prescribed Fire Restoration Treatments on Woody Debris and Snag Dynamics in a Sierran Old-Growth, Mixed-Conifer Forest. *Canadian Journal of Forest Research* 36(12):3183-3193. <u>http://www.ingentaconnect.com/content/nrc/cjfr/2006/00000036/00000012/art00016</u>
- 11 North, M., B. M. Collins, and S. Stephens. 2012. Using Fire to Increase the Scale, Benefits, and Future Maintenance of Fuels Treatments. *Journal of Forestry* 110(7):392-401. <u>http://www.ingentaconnect.com/content/saf/jof/2012/00000110/0000007/art00006</u> http://dx.doi.org/10.5849/jof.12-021
- 12 Haugo, R., C. Zanger, T. DeMeo, C. Ringo, A. Shlisky, K. Blankenship, M. Simpson, K. Mellen-McLean, J. Kertis, and M. Stern. 2015. A New Approach to Evaluate Forest Structure Restoration Needs across Oregon and Washington, USA. Forest Ecology and



Management 335(0):37-50.

http://www.sciencedirect.com/science/article/pii/S0378112714005519

- Stephens, S. L., J. D. Miller, B. M. Collins, M. P. North, J. J. Keane, and S. L. Roberts.
  2016. Wildfire Impacts on California Spotted Owl Nesting Habitat in the Sierra Nevada. *Ecosphere* 7(11):e01478-n/a. <u>http://dx.doi.org/10.1002/ecs2.1478</u>
- 14 Quinn-Davidson, L. N., and J. M. Varner. 2011. Impediments to Prescribed Fire across Agency, Landscape and Manager: An Example from Northern California. *International Journal of Wildland Fire* 21(3):210-218. <u>http://www.publish.csiro.au/paper/WF11017</u>
- 15 Abella, S. R., and J. D. Springer. 2015. Effects of Tree Cutting and Fire on Understory Vegetation in Mixed Conifer Forests. *Forest Ecology and Management* 335(0):281-299. <u>http://www.sciencedirect.com/science/article/pii/S0378112714005325</u>
- 16 Boisramé, G., S. Thompson, B. Collins, and S. Stephens. 2016. Managed Wildfire Effects on Forest Resilience and Water in the Sierra Nevada. *Ecosystems*:1-16. <u>http://dx.doi.org/10.1007/s10021-016-0048-1</u>
- 17 Mantgem, P. J. v., A. C. Caprio, N. L. Stevenson, and A. J. Das. 2016. Does Prescribed Fire Promote Resistance to Drought in Low Elevation Forests of the Sierra Nevada, California, USA? *The Journal of the Association for Fire Ecology* 12(1):13-25.
- 18 Stephens, S. L., and J. J. Moghaddas. 2005. Experimental Fuel Treatment Impacts on Forest Structure, Potential Fire Behavior, and Predicted Tree Mortality in a California Mixed Conifer Forest. *Forest Ecology and Management* 215(1-3):21-36. http://dx.doi.org/10.1016/j.foreco.2005.03.070
- 19 Collins, B. M., and S. L. Stephens. 2007. Managing Natural Wildfires in Sierra Nevada Wilderness Areas. Frontiers in Ecology and the Environment 5(10):523-527. <u>http://www.jstor.org/stable/20440763</u>
- 20 Cleaves, D. A., J. Martinez, and T. K. Haines. 2000. Influences on Prescribed Burning Activity and Costs in the National Forest System. GTR-SRS-037, USDA Forest Service, Southern Research Station, Asheville, NC. <u>http://www.srs.fs.usda.gov/pubs/1595</u>
- Hartsough, B. R., S. Abrams, R. J. Barbour, E. S. Drews, J. D. McIver, J. J. Moghaddas, D. W. Schwilk, and S. L. Stephens. 2008. The Economics of Alternative Fuel Reduction Treatments in Western United States Dry Forests: Financial and Policy Implications from the National Fire and Fire Surrogate Study. *Forest Policy and Economics* 10(6):344-354. <a href="http://www.sciencedirect.com/science/article/B6VT4-4S9R4T5-1/2/304d2cfeaf77c5cae961e79b4dd889b7">http://www.sciencedirect.com/science/article/B6VT4-4S9R4T5-1/2/304d2cfeaf77c5cae961e79b4dd889b7</a>
- 22 NIFC. 2016. *Prescribed Fires and Acres by Agency*. National Interagency Fire Center.December 18, 2016 https://www.nifc.gov/fireInfo/fireInfo\_stats\_prescribed.html
- 23 Martinuzzi, S., S. I. Stewart, D. P. Helmers, M. H. Mockrin, R. B. Hammer, and V. C. Radeloff. 2015. The 2010 Wildland-Urban Interface of the Conterminous United States. Research Map NRS-8, USDA Forest Service, Northern Research Station, Newtown Square, PA. <u>http://www.nrs.fs.fed.us/pubs/48642</u>
- 24 Hammer, R. B., S. I. Stewart, and V. C. Radeloff. 2009. Demographic Trends, the Wildland–Urban Interface, and Wildfire Management. *Society & Natural Resources* 22(8):777-782. <u>http://dx.doi.org/10.1080/08941920802714042</u>
- 25 Radeloff, V. C., R. B. Hammer, S. I. Stewart, J. S. Fried, S. S. Holcomb, and J. F. McKeefry. 2005. The Wildland–Urban Interface in the United States. *Ecological Applications* 15(3):799-805. <u>http://dx.doi.org/10.1890/04-1413</u>



- 26 Liang, J., D. E. Calkin, K. M. Gebert, T. J. Venn, and R. P. Silverstein. 2008. Factors Influencing Large Wildland Fire Suppression Expenditures. *International Journal of Wildland Fire* 17(5):650-659. <u>http://www.publish.csiro.au/paper/WF07010</u>
- 27 Gude, P. H., K. Jones, R. Rasker, and M. C. Greenwood. 2013. Evidence for the Effect of Homes on Wildfire Suppression Costs. *International Journal of Wildland Fire* 22(4):537-548. <u>http://www.publish.csiro.au/paper/WF11095</u>
- 28 Stein, S., J. Menakis, M. Carr, S. Comas, S. Stewart, H. Cleveland, L. Bramwell, and V. Radeloff. 2013. Wildfire, Wildlands, and People: Understanding and Preparing for Wildfire in the Wildland-Urban Interface. RMRS-GTR-299, USDA Forest Service, , Fort Collins, CO.
- 29 WFLC. 2014. The National Strategy: The Final Phase of the Development of the National Cohesive Wildland Fire Management Strategy. Wildland Fire Executive Council, Washington, DC. <u>http://www.forestsandrangelands.gov/strategy/documents/strategy/CSPhaseIIINationalStr</u>

ategyApr2014.pdf

- 30 FAC. 2015. Fire Adapted Communities. National Fire Protection Association.September 28, 2015 <u>http://fireadapted.org/</u>
- 31 McCaffrey, S. M., and C. S. Olsen. 2012. Research Perspectives on the Public and Fire Management: A Synthesis of Current Social Science on Eight Essential Questions. GTR-NRS-104, USDA Forest Service, Northern Research Station, Newtown Square, PA.
- 32 NIFC. 2016. *Policies*. National Interagency Fire Center.December 12, 2016 https://www.nifc.gov/policies/policies\_main.html
- 33 Melvin, M. A. 2015. National Prescribed Fire Use Survey Report. 02-15, Coalition of Prescribed Fire Councils and National Association of State Foresters, Washington, DC.
- 34 Diaz, J., J. L. Evans, and B. Jennifer. 2015. Impediments to Prescribed Burning on Private Lands: A Systhesis of Surveys from 2012-2015. 2016-2, North Carolina State University, Raleigh, NC. https://research.cnr.ncsu.edu/blogs/southeast-fireupdate/files/2015/08/Impediments-to-Prescribed-Burning-on-Private-Lands-Synthesis.pdf
- 35 Kobziar, L., D. Godwin, L. Taylor, and A. Watts. 2015. Perspectives on Trends, Effectiveness, and Impediments to Prescribed Burning in the Southern U.S. *Forests* 6(3):561. <u>http://www.mdpi.com/1999-4907/6/3/561</u>
- 36 Sun, C. 2006. State Statutory Reforms and Retention of Prescribed Fire Liability Laws on U.S. Forest Land. *Forest Policy and Economics* 9(4):392-402. <u>http://www.sciencedirect.com/science/article/pii/S1389934105001243</u>
- 37 Brenner, J., and D. Wade. 2000. Florida's Revised Prescribed Fire Law: Protection for Responsible Burners. Pages 132-136 in K. E. M. Galley, R. C. Klinger, and N. G. Sugihara, editors. *The First National Congress on Fire Ecology, Prevention, and Management*, Tallahassee, FL.
- 38 Sun, C., and B. Tolver. 2012. Assessing Administrative Laws for Forestry Prescribed Burning in the Southern United States: A Management-Based Regulation Approach. *International Forestry Review* 14(3):337-348. http://www.ingentaconnect.com/content/cfa/ifr/2012/00000014/00000003/art00007

https://doi.org/10.1505/146554812802646657



- 39 CDPS. 2014. Colorado Prescribed Fire Planning and Impelmentation Policy Guide. Colorado Department of Public Safety, Division of FIre Prevention and Control, Denver, CO. <u>http://www.wphfi.org/wp-content/uploads/2014/01/RXguide2014final.pdf</u>
- 40 SFE. 2016. *Certified Prescribed Burn Manager Info by State*. Southern Fire Exchange http://southernfireexchange.org/EdTrain/cpbm.html
- 41 Kearney, D. 2013. Building Prescribed Fire Capacity in Nm: Response to New Mexico Rx Fire Council. New Mexico Prescribed Fire Council, Las Cruces, NM.
- 42 Diaz, J., J. E. Fawcett, and J. R. Weir. 2016. The Value of Forming a Prescribed Burn Association. Southern Fire Exchange, Gainesville, FL. http://southernfireexchange.org/SFE Publications/factsheets/2016-2.pdf
- 43 ENMRD Forestry Division. 2010. New Mexico Statewide Natural Resource Assessment & Strategy and Response Plans. State of New Mexico, Energy, Minerals, and Natural Resources Department, Forestry Division, Santa Fe, NM.
- 44 Skaggs, T. 2016. personal communication. Underwriter, Outdoor Underwriters, Columbia, SC.
- 45 Wonkka, C. 2016. *Factsheet: Prescribed Fire Liability: Standards of Care by State*. Great Plains Fire Science Exchange.December 18, 2016 <u>http://www.gpfirescience.org/research-publications-1/2016/4/19/prescribed-fire-liability-factsheet-standards-of-care-by-state</u>
- 46 Hall, A. 2014. Understanding the Anti-Donation Clause: A Historical Perspective. Rodey, Dickason, Sloan, Akin & Robb, P.A.. Albuquerque, NM.
- 47 Spencer, A. G., C. A. Schultz, and C. M. Hoffman. 2015. Enhancing Adaptive Capacity for Restoring Fire-Dependent Ecosystems: The Fire Learning Network's Prescribed Fire Training Exchanges. *Ecology and Society* 20(3):38. <u>http://www.ecologyandsociety.org/vol20/iss3/art38/</u>
- 48 FSG. 2016. Fire as an Ecosystem Process: The Black Lake Burn. Forest Stewards Guild, Santa Fe, NM. <u>http://forestguild.org/publications/research/2016/FSG\_Black\_Lake.pdf</u>
- 49 TNC. 2016. *Prescribed Fire Training Exchanges*. The Nature Conservancy https://www.conservationgateway.org/ConservationPractices/FireLandscapes/HabitatProt ectionandRestoration/Training/TrainingExchanges/Pages/fire-training-exchanges.aspx