EXPANDING THE USE OF PRESCRIBED FIRE IN NEW MEXICO

WORKING GROUP REPORT
TO THE NEW MEXICO LEGISLATURE
AS REQUESTED THROUGH
HOUSE MEMORIAL 42

EXECUTIVE SUMMARY

The New Mexico House of Representatives passed House Memorial (HM) 42 in the 2019 session requesting the Energy, Minerals and Natural Resources Department (EMNRD) explore ways to expand the practice of prescribed fire on private lands in New Mexico. The memorial created a broad working group of experts and stakeholders from across the state to conduct research and analysis of expansion strategies and to develop a report to the legislature.

Fire is fundamentally necessary for healthy ecosystems in New Mexico; however, the central challenge is when and how to use prescribed fire to promote and manage healthy ecosystems and reduce the negative impacts of uncharacteristically large or intense wildfires, such as those the state has experienced in recent decades. Research from across the globe has conclusively shown that frequent forest and rangeland burning reduces wildfire severity and extent, and provides a host of other beneficial outcomes, including reducing costs of hazardous fuels management. However, significant barriers exist in New Mexico that make implementation of prescribed fire on private lands at the required pace and scale challenging or impossible. They include:

1. undefined statutory liability for prescribed burning;
2. lack of available and affordable insurance (directly corresponding to undefined liability);
3. private practitioners expressed a need for additional expertise through training; and
4. variability across local governments in process for obtaining permission to burn.

Collectively, these limitations constrain use of prescribed burning in New Mexico – a phenomenon that is found elsewhere in the United States where similar lack of clarity about liability, resulting limited access to insurance, and other barriers exist.

The EMNRD, Forestry Division (Forestry Division) invited all agencies and organizations named in HM 42 to join the working group. The Division formed a “core team” to lead the research and analysis and a “full working group” with additional participants to provide feedback. The working group adopted several guiding principles, including the intent to avoid inadvertently creating conditions that would discourage prescribed fire on private lands.

After exploring the barriers to increased use of prescribed fire in New Mexico, the HM 42 working group established four objectives for its work. These include:

- identifying steps to establish clear liability status for prescribed fire practitioners in New Mexico;
- identifying barriers to affordable insurance for private landowners and third-party burn consultants and propose solutions;

- identifying steps to establish a voluntary, appropriately rigorous training standard and certification pathway with incentives for private practitioner participation by way of defined liability standards and lower insurance costs; and
- examining the need for and feasibility of a different approach to ignitions permitting in the state.

Results and Recommendations[1]:

Liability: Undefined, and therefore uncertain, liability drives insurance costs higher and sometimes makes insurance unavailable due to the inability of the insurance industry to accurately predict risk. Legislation establishing a liability standard – either negligence or gross negligence – would rectify this uncertainty. These two options are proposed in this report and are examined for how each relates to the goal of increasing prescribed fire use, balancing risk and liability concerns for the public, and how these negligence standards affect the interrelated issues also examined by the working group. A regional or national risk pool to supplement private insurance could also increase availability and lower insurance costs; this option should be explored further. The working group further recommends that a prescribed burn act include "right-to-burn" language that would definitively establish prescribed fire as an accepted landowner right in New Mexico statutes, protecting this practice into the future and underpinning the other recommendations made by the working group. The current statute that sets civil damages at two times costs was also identified as a disincentive to the practitioner; the working group recommends reducing civil damage penalties to actual costs.

Training: Currently, there is no training requirement for private practitioners in New Mexico and appropriately rigorous, comprehensive prescribed fire training is not readily available for this group. The insurance industry often wants assurance that their coverage holder meets a recognized state, federal, or private industry established training standard. The dual limitations of lack of training and undefined liability therefore disincentivize the private insurance industry to cover private practitioners. The working group's recommendation is to establish a state-wide voluntary training and certification program that is incentivized through establishment of a defined liability standard, possible increased access to insurance products, and a proposed reduction of civil damage penalties from two times costs to actual costs (NMSA 1978, Section 30-32-4. [Civil action for damages]). If a gross negligence standard is adopted it could be limited to only individuals who have voluntarily completed training and become certified, further incentivizing participation and ensuring that only practitioners who meet this appropriately rigorous standard are eligible for this difficult to prove standard of negligence.

Permitting: There are no state-mandated ignition permits required to conduct a prescribed fire in New Mexico. However, some local governments have adopted their own ordinances and required permits, thereby creating wide variability across the state regarding ignition permit availability and requirements. Even though jurisdictions that have adopted ordinances are primarily interested in managing "open burning", usually interpreted as small-scale back-yard debris burning and recreational fires, these ordinances are often interpreted to apply to prescribed burning for land management in the absence of other ordinances or state statutes. Often these ordinances include restrictions or requirements that are not practical or applicable to prescribed burning. This, and inconsistent restrictions and requirements between jurisdictions, create a barrier to pile and broadcast burning for land management, especially for burn projects planned across jurisdictional lines. Working group members have experienced these issues first hand, have heard concerns and frustration expressed by other prescribed fire practitioners, and worked with private landowners who have expressed apprehension about the

[1] *See Table 1 for a tabular summary of recommendations and how these recommendations intersect with each other.*

unclear, sometimes conflicting or inappropriate requirements in some permits, and particularly the practice of pencil-changing permit language[2].

The working group provides two recommendations to establish and maintain consistency in definitions, restrictions, and requirements in ignition permits across jurisdictions in the state. A statewide ignition permit would ensure a consistent approach across the state and could function similarly to the current smoke permit system. In this situation, local governments would retain their authority to issue ordinances and permits for yard waste and other types of small-scale open burning, issue burn bans, and be kept appropriately informed of burn activities. Ideally, an online ignition permit would be seamlessly blended with the current smoke management permit issued by the New Mexico Environment Department (NMED) creating a cost and effort efficient "one-stop shopping" experience for practitioners. Any legislation should ask the NMED to consider combining efforts to promote such efficiency for the state as well as the practitioner and recognize that to do so will require financial support to the department for the modifications proposed here as well as for system maintenance. A second option is for any legislation to require local governments to issue permits and provide criteria for local governments to follow when creating or modifying their permits for prescribed burning as defined in this document. The advantage of this option is that having "right to burn" language and a requirement to act in statute would create the impetus needed for local governments to improve their ignition permitting requirements while the state would not take on the new administrative burden. This approach would eliminate the concern that some local governments may not want to accept state control over some burn permitting in their jurisdiction. The disadvantage of this approach is that ordinance and ignition permit reforms would occur jurisdiction by jurisdiction.

In either case, if a gross negligence standard is adopted for certified prescribed fire practitioners, practitioners could be required to submit burn plans for peer review by another state certified practitioner prior to being granted an ignition permit, providing further oversight and thus increasing confidence in this group of practitioners. While related to permitting this is a separate issue primarily driven by liability considerations.

Ideally, all recommendations could be addressed in the near-term as they function best in synergy[3]. However, in recognition of the high degree of uncertainty in the state at the current time and the potential difficulty in realizing those recommendations that will require new expenditures we have grouped our recommendations into suggestions for near-term and five-year goals beginning on page 27.

Conclusions:

Implementation of liability, training, and permitting recommendations addresses several barriers with interrelated beneficial outcomes:

- passage of a New Mexico Prescribed Burn Act that includes "right-to-burn" language establishes prescribed fire as an acceptable practice and landowner right, protecting this tool into the future;
- lack of available and affordable insurance is addressed by defining statutory liability;
- a training and certification program for private practitioners improves insurance availability and cost and provides a needed resource for this group;

[2] Personal experience of working group members who are active prescribed fire implementers on private lands in New Mexico and work with private landowners who wish to use prescribed fire as a land management tool.
[3] See Table 1.

- centralizing ignition permitting for prescribed fire conducted for land management across the state improves consistency and ease of compliance.

Taken together these recommendations will expand the use of prescribed fire in New Mexico.

I. INTRODUCTION

The New Mexico House of Representatives passed HM 42 in the 2019 session requesting EMNRD create a working group to develop an analysis to expand the practice of prescribed fire in New Mexico. The memorial recognized that wildfire is an environmental driver and an essential component in most New Mexico ecosystems. However, uncharacteristically large and severe wildfires are affecting all land jurisdictions and putting New Mexico's watersheds, forests, and wildlife habitat at high risk. This situation, and the need for restoration of forest and range ecosystems, requires expanded use of prescribed fire in the state. The memorial identified liability, permitting, training, and smoke as major interconnected issues to be examined by the working group.

Prescribed fire is defined in the memorial as fire applied under specific conditions, confined to a specific area to accomplish specific management objectives. The memorial stated that prescribed fire is known by land managers to be effective at reducing subsequent fire behavior, as well as being a cost-effective tool to lower severe fire risk, help avoid loss of life, property, and infrastructure, and preserve forest benefits such as water supply, wildlife habitat, ecotourism, jobs, economic development in rural communities, and hunting, fishing, and outdoor recreation opportunities. Research supports this finding and has demonstrated that the most effective treatments to moderate wildland fire behavior include both thinning and prescribed fire. In fact, when thinning alone is used as a forest management tool and residual surface fuels or slash are left untreated, fire behavior becomes more intense than in areas that were not thinned.

Nearly one-third of the forest and woodland in New Mexico is privately owned, over seven million acres. A century of fire exclusion has allowed the density and connectivity of trees within forests to increase. Dense, connected trees act as fuel for wildfire and the pace and scale of forest management must increase to reduce the threat of large, high severity wildfires, such as those the state has experienced in recent decades. This is particularly true within the wildland-urban interface (WUI) and on private lands that often border communities. Prescribed fire is an efficient and cost-effective practice to reduce woody material that acts as fuel for fire, reduce the threat of wildfires by changing fire behavior, and return fire as an ecological process. In the WUI and on private lands, where homes are interspersed throughout naturally vegetated areas, prescribed burning is more difficult and complex than in remote areas that may be a priority for water source protection. Research has shown that prescribed fire at ecologically appropriate intervals can reduce the threat of high severity wildfire at the least cost when compared to other forms of treatment. 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; however, significant barriers can exist that limit the practice, especially on private lands.

The Forestry Division invited all agencies and organizations named in HM 42 to attend an initial meeting in July 2019. The attendees formed a “core team” consisting of eight agencies and organizations to meet monthly and conduct research and analysis on the barriers to prescribed fire analysis and proposed solutions. The attendees also formed a “full working group” comprised of more than 20 agencies and organizations to meet quarterly and provide feedback to the core team. See the appendices for the list of core team and full working group members.

The HM 42 working group found significant limitations to the use of prescribed fire on private lands in New Mexico. The barriers include uncertainty regarding liability if a prescribed burn causes unintended damage,

difficulty obtaining insurance for prescribed fire activity, and public concern about smoke. The working group found that:

- New Mexico does not have a statute defining liability for prescribed burning;
- uncertain liability makes it difficult and expensive for landowners and prescribed burning practitioners (e.g. contractors with specialized training to plan and conduct prescribed burns) to obtain insurance;
- NMED requires a smoke permit for prescribed burning under the state Smoke Management Plan;
- one third of New Mexico counties have open burning policies either explicitly or commonly applied to prescribed burning and these vary widely across the state;
- state agencies and local government fire departments require National Wildfire Coordinating Group (NWCG) qualifications for participation in prescribed fire operations, a training standard that requires seven-12 years to obtain depending on type of qualification required; and
- states with high levels of prescribed burning on private lands have a culture of fire use, often supported by clear liability standards and state-sponsored training and certification programs.

A. KEY TERMS AND CONCEPTS

Right to burn is a phrase often described in statutes of states that have enacted prescribed fire statutes. Right to burn language in statute explicitly protects a landowner's right to use fire as a land management tool; this right is often understood to exist but is classified in state statute to prevent future removal of the right. It was codified first in Florida in the 1990s[4] and nearby states quickly followed suit (Sun 2006) with some variation in the state-specific definitions. In right to burn states, government entities cannot outright ban the act of prescribed burning; however, temporary burn ban proclamations issued by state and local governments for fuel and weather conditions related to increased wildfire risk are permissible. Additionally, other reasonable requirements intended to promote public health and safety may also be imposed if the right to burn while meeting these requirements is maintained.

Agricultural burning is not defined in New Mexico statutes and definitions in statutes in other states vary widely. Some states include timber stand preparations, forage, and range in their definition of agricultural burning, while other states limit agricultural burning to commodity producers who manage crop fields or field infrastructure like water delivery systems. Agricultural burning is a common practice in New Mexico and the recommended definition of agricultural burning in New Mexico includes burning to improve water conveyance, prepare or improve crop fields, support orchard management, promote forage or rangeland for livestock production, or manage invasive species impacting crop or forage production. Agricultural practitioners are required to comply with New Mexico smoke management rules.

Acequia burning is burning practiced along the edges of communally managed irrigation ditches that dates back hundreds of years in New Mexico. Acequia managers often seasonally use fire to clear their ditches of vegetation and debris to improve or restore efficient water flow and delivery. While a traditional practice, acequia burning is not defined in New Mexico statute.

[4] *For example, Florida statute 590.125 regarding Open Burning authorized by the Florida Forest Service states that prescribed burning, "Is considered to be a property right of the property owner if vegetative fuels are burned…"*

Open burning is a phrase typically used by local governments to refer to backyard-type fires where material is burned on the ground or in an open receptacle not vented through a stack or chimney (e.g., burn barrels, backyard incinerators, weeds, brush piles, etc.). Open burning policy and permit language varies from county to county in New Mexico. Open burning is not a phrase that should be used to reference prescribed fire, which includes pile burning materials resulting from land management activities and broadcast burning, although local government ordinances are often interpreted to apply due to vague, imprecise word choice or for lack of an ordinance specifically applying to prescribed fire.

Pile burning is the consumption of vegetation, usually sticks, limbs, or boles of trees and brush, resulting from land management activities, including fuels reduction, habitat improvement, industrial forestry, ecological restoration, or land clearing. Piles may range in size from a few feet on a side to piles 100 feet or more on a side. Piles may be few or numerous within a project site, depending on the type of activity undertaken and the piling technique used. For the purposes of this document, "pile burning" is considered separate from "open burning" of single or few, small piles of yard waste or pruning debris in an individual's yard or farm. It also does not include piles resulting from agricultural activities, such as orchard pruning.

Broadcast burning is the burning of vegetation over a predefined area for land management purposes, such as fuels reduction, ecological restoration, invasive species management, or habitat improvement. It can include burns conducted for agricultural purposes; however, this document defines these burns separately. Broadcast burning is distinct from pile burning, which involves the consumption of stacked material.

Burn complexity is a key concept for determining the organization and management of prescribed fire. The NWCG has a complexity analysis matrix used by prescribed fire planners, managers, and burn bosses to determine burn complexity. The factors include safety, fire behavior, potential for escape, ignition procedures, expected duration, smoke management, number and sequence of activities to safely implement the prescribed burn, management organization, resource objectives, constraints, and logistics (NWCG PMS 424, 2018). Determining complexity using the NWCG complexity analysis matrix is an important skill requiring dedicated training.

Prescribed Burn Associations (PBAs) formalize collaborations between private landowners and facilitate sharing of organizations' and individuals' equipment, resources, and personnel for prescribed burns. PBAs have been formed at various scales including local, county, or multi-county and are typically landowner-led with little or no long-term government agency support. PBAs can help managers maximize burn opportunities by pooling resources to achieve larger, more complex, or more numerous burns than would be possible by individuals working alone. Insurance may also be more affordable for landowners if acquired through a PBA group discount, while some PBAs are effectively self-insured because all surrounding landowners are participating, making a lack of available or affordable insurance products a non-issue. There are currently no PBAs in New Mexico[5] although there are areas of high PBA potential, and areas with interested landowners. In 2018, California became the first state in the West to use this model.

[5] The Malpai Borderlands Group (http://www.malpaiborderlandsgroup.org/?section=conservation-action) engages in coordinated prescribed fire activities across private ownerships and is very similar to a PBA.

B. SCOPE OF THE REPORT AND GUIDING PRINCIPLES

The HM 42 working group agreed on a scope for the analysis and recommendations. This scope was captured as a set of principles described below. The principles were a useful tool to keep the HM 42 working group focused on the tasks outlined in the memorial without straying into other related topics.

- The HM 42 working group focused on enabling conditions for prescribed fire on private lands conducted by private practitioners. The management of prescribed fire on federal, state, tribal, or municipal lands was not evaluated. The working group also determined that agricultural and acequia burning were outside of the scope of the memorial and therefore would be exempt from the recommendations in this report, although definitions for both are included for clarity.

- The goal of the HM 42 working group was to develop program and policy recommendations to expand prescribed fire use on private lands with support from the Forestry Division.

- After exploring the barriers to increased use of prescribed fire in New Mexico, the HM 42 working group established four objectives for its work:

    - identifying steps to establish clear liability status for prescribed fire practitioners in New Mexico;
    - identifying barriers to affordable insurance for private landowners and third-party burn consultants and propose solutions;
    - identify steps to establish a voluntary, appropriately rigorous training standard and certification pathway with incentives for private practitioner participation by way of defined liability standards and lower insurance costs; and
    - examining the need for and feasibility of a different approach to ignitions permitting in the state.

- The HM 42 working group also determined that any programs or policies recommended would be realistic for private landowners and any third-party hired for assistance. Many landowners will continue their traditional burning practices without ever attending a training and they will not encounter new barriers because of the HM 42 recommendations.

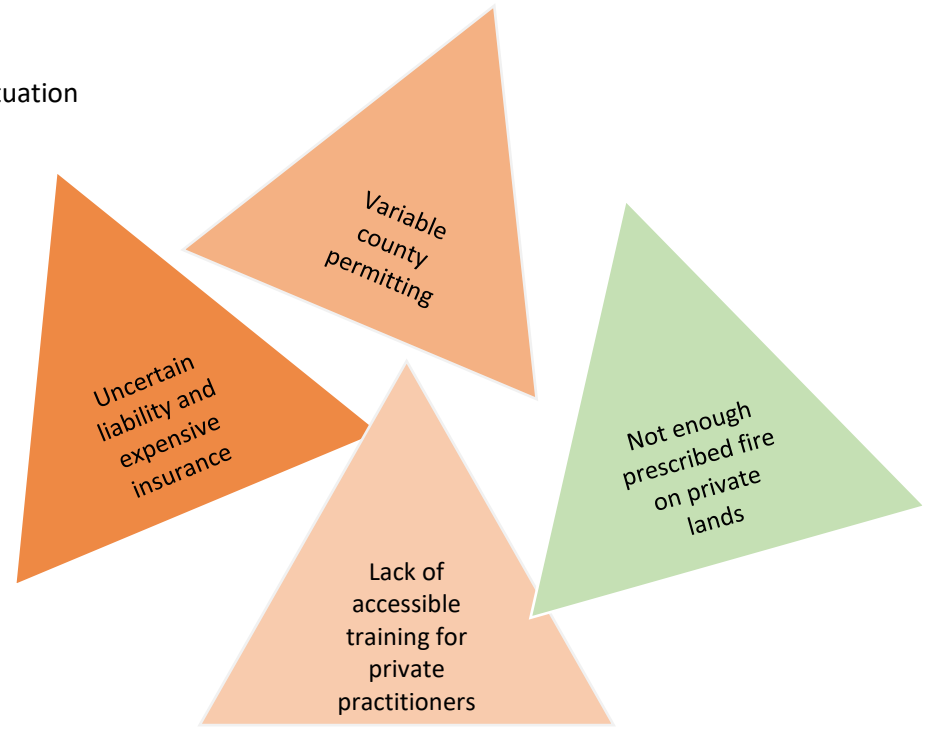
- Finally, the HM 42 working group recognized the possibility of creating unintended consequences that would inadvertently discourage prescribed fire on private lands and sought feedback from diverse private landowner constituents on the findings and recommendations.

II. FINDINGS

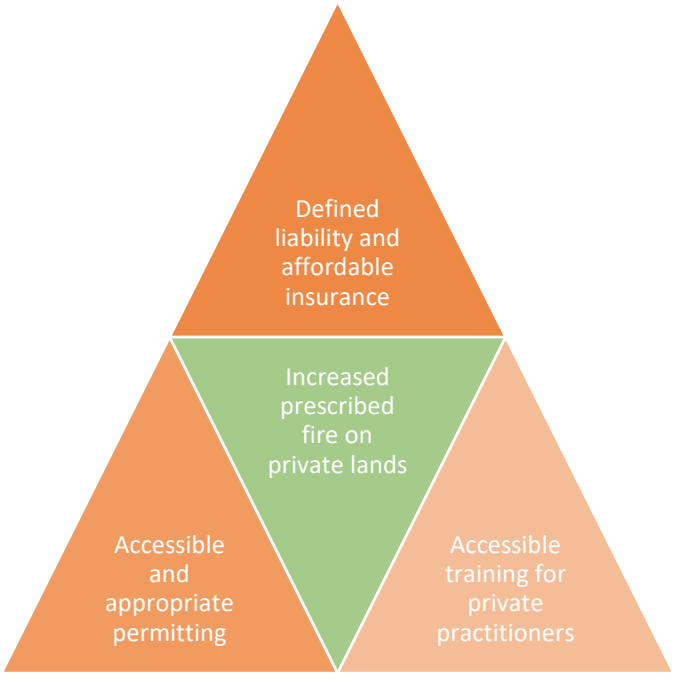
The interrelationships between liability, insurance, training, certification, smoke management, and permitting are complex. The HM 42 working group discovered connections that influenced the scope of the recommendations. As an example, uncertainty about prescribed fire liability in New Mexico has led to high costs and difficulty obtaining private insurance. Conversely, in states with defined liability standards, training programs to ensure practitioners are qualified, and certification programs to track those qualifications, the cost of insurance decreased, and the availability of insurance increased. Similarly, the current variability in ignitions permits from one county to another may be challenging, when trying to increase the pace and scale of prescribed fire

statewide, as further described in the text; adopting a different process may improve efficiency and efficacy while also providing data on burn practices to better inform insurance rates. These interrelationships are described in a general way in the following two diagrams.

Current Situation



Desired Situation



A. LIABILITY

Current Status of Liability in New Mexico

Liability definitions for prescribed fire varies from state to state. There are three types of prescribed fire liability defined in published literature on this topic; commonly, these categories are called strict liability, negligence (referred to as 'simple negligence' in the published literature cited here), and gross negligence. States such as New Mexico that do not statutorily define liability for prescribed fires, have prescribed fire liability fall into a fourth catch-all category of uncertain liability (Sun, 2006). This uncertainty drives insurance costs higher and is a significant factor inhibiting the use of prescribed fire in New Mexico. Legislation establishing a liability standard would be an improvement over the current uncertainty. Table 2 provides a national perspective on prescribed fire liability by synthesizing the best available information for each state.

The three broad categories of liability are defined as:

Strict liability is a standard under which a person is legally responsible for harm even if no negligence is found and regardless of standards of care taken.

Negligence is a standard of liability under which a person is legally responsible for harm if reasonable care was not taken. In New Mexico, a negligent act is one which a reasonably prudent person would foresee as involving an unreasonable risk of injury to him or herself or to another and which such a person, in the exercise of ordinary care, would not do. Unlike strict liability, a negligence standard permits the defense that the accident occurred although the defendant satisfied all the applicable standards of care.

Gross negligence is a liability standard where reasonable care needs to have been taken, but holds a person legally responsible for harm only if it can be shown that there was a reckless disregard for safety and an intentional failure to carry out a duty of care to others. A party is grossly negligent when it fails to exercise even slight care or slight diligence. Black's Law Dictionary defines gross negligence as "[t]he intentional failure to perform a manifest duty in reckless disregard of the consequences as affecting the life or property of another; such a gross want of care and regard for the rights of others as to justify the presumption of willfulness and wantonness.".[6] Gross negligence is not currently defined in New Mexico case law or statutes.

While the benefits of prescribed fire are well documented, risk is inherent in the practice of prescribed fire and it is important to understand the intersection of risk, liability, and the consequences of escaped fires. The HM 42 working group compiled data with support from the New Mexico Office of Superintendent of Insurance. Data used in their analysis from the United States Department of Agriculture, Forest Service (USFS 2016) of more than

[6] To constitute gross negligence, a party's conduct must " 'smack[ ] of intentional wrongdoing' " or "evince[ ] a reckless indifference to the rights of others" (*Sommer v. Federal Signal Corp.*, 79 N.Y.2d at 554, 583 N.Y.S.2d 957, 593 N.E.2d 1365, quoting *Kalisch–Jarcho, Inc. v. City of New York*, 58 N.Y.2d 377, 385, 461 N.Y.S.2d 746, 448 N.E.2d 413). "Stated differently, a party is grossly negligent when it fails 'to exercise even slight care' or 'slight diligence' " (*Goldstein v. Carnell Assoc., Inc.*, 74 A.D.3d at 747, 906 N.Y.S.2d 905, quoting *Food Pageant v. Consolidated Edison Co.*, 54 N.Y.2d 167, 172, 445 N.Y.S.2d 60, 429 N.E.2d 738 and *Dalton v. Hamilton Hotel Operating Co.*, 242 N.Y. 481, 488, 152 N.E. 268). Gross negligence is willful and wanton conduct, that is, action committed recklessly, with conscious disregard for the safety of others. *Forman v. Brown*, 944 P.2d 559, 564 (Colo.App.1996).

77,000 prescribed fires tracked between 1996 and 2014 indicate that prescribed fire escapes have decreased over time, representing an escape frequency of less than .15% (OSI 2020). This indicates that the safety of the practice has improved over time and that the risk of an escape is low. It is also important to look at the potential consequences to ecosystems and human infrastructure of an escape. Two high consequence prescribed escapes are the Cerro Grande Fire of 2000 in New Mexico and the Lower North Fork Fire of 2012. The Cerro Grande Fire cost over $50 million dollars and burned over 200 homes (Impact DataSource 2013) while the Lower North Fork Fire had three fatalities and burned 22 homes (Gabbert 2014). These data and examples show that escapes are a low probability but potentially high consequence outcome of prescribed fires.

Additionally, in New Mexico statute an individual whose actions result in fire damages to the property of others is liable for two times the cost of those damages. This probably has a chilling effect on prescribed fire implementation as it likely drives insurance rates higher or causes the industry additional reluctance to provide coverage in New Mexico.

Critical Issues that Limit Increased Implementation

Uncertain liability makes insurance difficult to acquire for landowners and prescribed fire practitioners as insurers prefer known standards to uncertainty when valuing risk. Insurance providers are reluctant to issue policies in states with uncertain liability as it is difficult to fully assess the insured's financial liability in the event of a claim. Premiums are typically higher in these states as a result or no insurance product may be available. The lack of clarity regarding civil liability for damages or criminal liability and the resulting lack of affordable insurance for landowners and prescribed fire practitioners in New Mexico likely limits the extent and frequency of prescribed burning in the state[7].

What Other States Are Doing

Table 2 provides a summary of liability types and state statutes. The uncertain category is assigned to 19 states where prescribed fire and its liability have not been defined in statute. Common law is usually followed to assign liability including in Arizona, Washington, and Utah; this is usually defined as negligence in the limited examples of case law. Only five states have strict liability laws, including Hawaii, Minnesota, and Rhode Island. The most common type of liability statute is negligence which occurs in 21 states including California, Oklahoma, and Oregon. Five states have gross negligence liability that applies when certain criteria are met.

- Florida and South Carolina have a gross negligence standard for landowners and their agents or employees when the prescribed is conducted pursuant to certain statutory requirements including the burn being supervised by a certified prescribed burn manager, submitting a written plan to the state permitting agency, etc. § 590.125, Fla. Stat. and S.C. Code Ann. §§ 48-34-20, 48-34-40, and 48-34-50.
- Georgia has a gross negligence standard for landowners and their agents when an individual who has training or experience in prescribed burning is in control of the burn and on site and the

[7] Melvin 2015 cited permitting/legal as the fifth most important barrier nationally and in the West this category was cited as two times more important than in the rest of the country; in Melvin 2018 this barrier was ranked seventh. The reports define the permitting/legal category as "state law, burns bans, local restrictions, NEPA process, ESA". The connection between insurance and uncertain liability is also supported by work conducted by the Forest Stewards Guild specifically investigating this connection, and other issues, with the insurance industry (Lasky, personal communication).

landowner has a state issued burn permit that consists of the landowner providing the time and location of the burn. O.G.C.A § 12-6-148 and § 12-6-90.

- Washington has a gross negligence standard for prescribed burn managers who are certified pursuant to the state's prescribed burn manager certification program. RCW 76.04.183.
- Colorado has a gross negligence standard for a landowner or the landowner's designee who is a state certified burner or qualified by NWCG standards as a prescribed burn boss and conducts the burn in compliance with applicable state laws and local ordinances. C.R.S. 24-33.5-1217. C.R.S. 24-33.5-1217.5 requires the state to adopt minimum standards for prescribed burning that include the requirement that at least one person, who must be qualified by NWCG standards as a prescribed burn boss at the level commensurate with the complexity of the burn, to be present on site. A landowner conducting a prescribed burn on his or her own property is not required to be certified but is not eligible for gross negligence liability.
- The Texas statute is a hybrid, providing negligence for the burn boss who oversees the burn and gross negligence for all others participating in the activity. It is unclear if this hybrid scenario supports increased use of prescribed fire as examples from case law have shown that responsibility for fault lies with the burn boss or the landowner and not to those in subordinate operational roles.

Many of the states that burn the most acreage annually have a gross negligence standard for prescribed fire including Georgia, Florida, and South Carolina. While these states also have an established culture of prescribed fire use, Wonnka *et al*. 2015 evaluated the impact of liability standards on land managers' decision making in the southeastern United States and found a correlation. They state:

> "Our research assessed the consequences of prescribed burn statutory reform by identifying legal incentives and impediments to prescribed fire application for ecosystem restoration and management, as well as fuel reduction. Specifically, we explored the relationship between prescribed burning laws and decisions made by land managers by exploiting a geographic-based natural experiment to compare landowner-prescribed fire use in contiguous counties with different regulations and legal liability standards. Controlling for potentially confounding variables, we found that private landowners in counties with gross negligence liability standards burn significantly more hectares than those in counties with simple negligence standards ($F_{6,72}$ = 4.16, P = 0.046)….Lawmakers attempting to develop prescribed burning statutes to promote the safe use of prescribed fire should consider the benefits of lower legal liability standards in conjunction with regulatory requirements that promote safety for those managing forests and rangelands with fire. Moreover, ecologists and land managers might be better prepared and motivated to educate stakeholder groups who influence prescribed fire policies if they are cognizant of the manner in which policy regulations and liability concerns create legal barriers that inhibit the implementation of effective ecosystem management strategies."

Most of the states with negligence or gross negligence standards have tied their liability standard to training and certification programs as part of a coordinated effort to support safe and effective use of prescribed fire (see B. Training). Often, the insurance industry wants assurance that their coverage holder meets a recognized state, federal, or private industry established training standard and this information is used to set rates. In some states, legislation has been introduced to change the liability standard from strict liability or negligence towards the gross negligence category to encourage the increased use of prescribed fire.

The California legislature passed Senate Bill 2091 in 2018 directing the Department of Forestry to analyze insurance risk pools as a strategy to provide affordable insurance coverage in conjunction with a clearer definition of liability in the state. The concept, also known as an intergovernmental risk pool, is when a state, group of states, or other public entities self-fund exposure to risk. One well known example was formed under the Patient Protection and Affordable Care Acts when 34 states, including New Mexico, created risk pools to guarantee health coverage through a state-sponsored health insurance plan to those that were considered uninsurable in the private market. A risk pool for prescribed fire would provide primary protection for prescribed burn practitioners and landowners who cannot obtain private insurance on the open-market or provide added coverage to those who already have private insurance (for claims in excess of $1 million). However, even in a state as large as California, the key finding from SB 2091 was that demand for prescribed fire insurance would be insufficient to fund a state risk pool. Instead, they recommend a western regional or national risk pool be formed. If formed, a regional or national risk pool would further improve the availability and affordability of insurance for private practitioners in New Mexico.

Steps to Clarify Liability in New Mexico

Legislation, such as a "New Mexico Prescribed Burn Act", should clarify prescribed burn liability in New Mexico, for both damages from smoke and fire, and move New Mexico from an undefined category to a negligence or gross negligence category. The legislation should define landowner's and burn practitioner's "right to burn," and define prescribed burning as an acceptable practice in New Mexico law. This definition would protect the current and future ability of individuals to use prescribed fire in the state and provide the public benefits described earlier. The legislation should further reduce liability for civil damages from two times costs to actual costs; if this reduction is offered for certified practitioners only it could help incentivize participation in a voluntary training and certification program.

Either category -- negligence or gross negligence -- would reduce insurance costs for private individuals, non-governmental organizations (NGO), and private contractors. A clear standard of liability would create the enabling conditions for contractor and NGO investment, which in turn would increase prescribed fire capacity and implementation. A gross negligence liability standard would be the most likely to ameliorate concerns of landowners who use prescribed fire of incurring uncontrolled financial damages and provide an incentive for burn practitioners to complete a training and certification program, if the availability of a gross negligence standard was tied to certification. However, if a low probability but high consequence escape occurs by a certified practitioner who is operating under a future gross liability standard, those New Mexicans impacted by that escape will have to prove that the certified practitioner recklessly disregarded safety or intentionally failed to carry out a duty of care to others in order to recover losses. Depending on the circumstance, this can place a high burden on those individuals impacted by the escape, particularly in a scenario where an uninsured or underinsured resident or homeowner is impacted.

The Insurance Information Institute (2016) estimates that 5% of homeowners are uninsured. This insurance gap can be exacerbated in wildland-urban interface areas where insurance coverage can be volatile from company to company; however, data on this circumstance was unavailable. The US Census estimates that there are 943,208 households in New Mexico.[8] At the 5% uninsured rate, an estimated 47,160 homes are potentially uninsured in New Mexico. If prescribed fire were conducted near all those homes, at the federal escape rate of roughly .15% that would mean that roughly 70 homes would have exposure statewide. This exposure estimate is likely high for a year or even a 10-year period since it is very unlikely that prescribed fire would be applied adjacent to all these

[8] The household data for New Mexico was accessed at https://www.census.gov/quickfacts/NM.

homes. Despite this, the working group felt it was responsible to describe this scenario and to fully acknowledge the potential negative consequences of increased prescribed fire in New Mexico.

Four existing statutes would need to be considered in drafting new legislation. These include:

- NMSA 1978, Section 68-2-8 (https://laws.nmonesource.com/w/nmos/Chapter-68-NMSA-1978-1993#!b/68-2-8) authorizes the State to, in "cooperation with federal, state and local agencies in the development of systems and methods for the prevention, control, suppression and prescribed use of fires on rural lands and within rural communities; and providing financial, technical, and related assistance to others to organize, train, and equip local fire-fighting forces to prevent, control, and suppress fires threatening the natural resources of rural forest areas."

- NMSA 1978, Section 68-2-34 (https://laws.nmonesource.com/w/nmos/Chapter-68-NMSA-1978-2011#!b/68-2-34) describing the fire planning task force in item E.(2)(b) states the task force shall, "consider the benefits of thinning overgrown forests, conducting controlled burns…".

- Current laws governing criminal offenses and action for civil damages for forest fires are in (https://law.justia.com/codes/new-mexico/2018/chapter-30/article-32/section-30-32-4/) as well as improper handling of fire (https://law.justia.com/codes/new-mexico/2018/chapter-30/article-17/section-30-17-1/).

- NMSA 1978, Section 30-32-4. [Civil action for damages.] If any person shall set on fire any woods, marshes, prairies, whether his own or not, so as thereby to occasion any damage to any other person, such person shall make satisfaction in double damages to the party injured, to be recovered by civil action..

A comprehensive list of terms and definitions would also be needed as part of new legislation, including the clarification of agricultural and acequia burning and their status.

Recommendations for Liability

The working group recommends two options for consideration by the legislature – negligence and gross negligence. While the differences between these standards are important, and the pros and cons of both are outlined below, adoption of either standard would be an improvement, and would have a supporting effect on prescribed fire implementation over the status quo. The working group is united in its opposition to adopting strict negligence in New Mexico as this standard would have a chilling effect on implementation, which is the opposite effect desired. Under strict liability it is highly likely that insurance coverage would remain difficult and expensive to obtain and there would be little to no financial incentive to participate in a voluntary training program.

<u>Negligence Option</u>
Adoption of a negligence standard in New Mexico would apply to all prescribed burning as defined in this document, regardless of an individual's level of training or certification. Creating and offering a state-level training program to private individuals is recommended to increase the knowledge, skill, and ability of all practitioners in the state, although a negligence standard may not incentivize voluntary participation in such a program unless the insurance industry requires it as a condition for providing insurance coverage or provides

lower rates for those who are trained or certified. This negligence standard should be coupled with a reduction in liability for civil damages from two times costs to actual costs; if this reduction is offered for certified practitioners only it would help incentivize participation in a voluntary training and certification program. The working group believes that a negligence standard combined with an optional certification program and a codified right to burn would benefit New Mexico's natural resources and communities by reducing identified barriers to prescribed fire implementation as compared to the current situation, particularly the difficulty in obtaining insurance for burning. This moderate approach would balance the need for expanded use of prescribed fire with concerns regarding real and perceived liability for both the burn practitioner and neighboring landowners and homeowners.

Gross Negligence Option

Five states have gross negligence liability that applies when certain criteria are met; however, these states vary in their approach to applying this standard. The legislature would need to determine which gross negligence model to follow. Proposed here is adoption of a two-tiered liability standard based on status as a state certified prescribed fire practitioner. Non-certified practitioners would be subject to a negligence liability standard for all prescribed burning in New Mexico as defined in this document, while certified practitioners would be provided with a gross negligence liability standard. The benefits of a gross negligence liability standard would be conferred only to those who are certified by an appropriately rigorous training program and obtain and follow required permits and any other statutory requirements, strongly incentivizing voluntary participation in this program. There is evidence that more prescribed fire occurs in regions with a gross negligence standard versus negligence (Wonkka et al 2015). It is further recommended that under a gross negligence scenario, certified practitioners be required to submit burn plans for peer review by another state certified practitioner prior to obtaining an ignitions permit, providing a measure of additional oversight. This tiered negligence standard should be coupled with a reduction in liability for civil damages from two times costs to actual costs; if this reduction is offered for certified practitioners only it would help incentivize participation in a voluntary training and certification program. It must be acknowledged that a gross negligence standard sets a very high bar for plaintiffs harmed by an unlikely but potentially high consequence escaped prescribed burn, a significant concern particularly for the above discussed group of uninsured homeowners in the state. This risk of harm must be considered against the need to increase the pace and scale of prescribed fire, the need to reduce barriers to doing so, and the public benefits conferred by the actions of private practitioners. Considerations and recommendations for a training and certification pathway are described in the next section of this report, while further information regarding permitting is found in that section.

A regional or national risk pool is also suggested to lower insurance costs. Since a risk pool is unlikely to be viable at the state-level, the recommendations for state action are:

1. a State of New Mexico memorial in support of a regional or national risk pool;
2. work with the Western Governors Association and Western Council of State Foresters to create a regional risk pool; and
3. request Congressional action to create a national risk pool.

B. TRAINING

Current Status of Prescribed Fire Training in New Mexico

Private individuals in New Mexico are not required to attain any type of training or certification before engaging in prescribed burns, either broadcast or pile burns, and no certification or basic training is required to obtain an

ignition or smoke permit (see C. Permitting). In addition, while insurance companies often consider their policy holders' qualifications or certification to a known state, federal, or industry training standard when determining coverage risk, there is currently no consistency in this requirement either for individuals or as a requirement of farm and ranch coverage, if available.

State agencies and federal land management agencies in New Mexico follow NWCG standards while managing prescribed burns on their jurisdictions and when cooperating with partners on prescribed burns on other ownerships. Some NGOs with implementation capacity, such as the Forest Stewards Guild and The Nature Conservancy, also voluntarily follow NWCG standards for insurance or programmatic reasons. Consequently, staff in these state and federal agencies and the NGOs find they must dedicate between seven and 12 years and significant funds to attaining the necessary qualifications.

Private non-agency individuals can obtain basic firefighting training through local volunteer fire departments (the course names are NWCG S-130 Firefighter Training and S-190 Introduction to Wildland Fire Behavior, and together they about 40 hours to complete); these trainings are offered by the Forestry Division and funded through federal grants. Both courses are also available as free self-study online. A required in-person field day must also be completed as part of S-130. Additionally, the New Mexico Fire Academy has offered wildland fire classes in the past; however, these are not always consistent with NWCG curriculum or provide an advanced wildland curriculum. Other fire training opportunities exist through New Mexico colleges and universities, including experiential training. For example, New Mexico State University (NMSU) offers extension workshops focused on receiving hands-on training, while Northern New Mexico College and Central New Mexico Community College offer a degree in fire science. The New Mexico Prescribed Fire Council and others have also held well-attended workshops for private landowners and other private practitioners in several locales including Wagon Mound, Chama, and Rodeo. In all cases, however, available training is basic and advanced courses required for industry recognized burn boss certification, only available in New Mexico through the NWCG curriculum, are not available to private individuals.

When based in Albuquerque, the Fire Use Training Academy (FUTA) provided fire training to agency personnel. The loss of FUTA following its move to Tucson, Arizona has created a gap in fire training capacity in the region. While this academy was not feasible for most private individuals due to cost and time requirements, a revitalized academy could provide important capacity to satisfy agency training needs and may be a feasible option for some private contractors.

The Forest Stewards Guild and The Nature Conservancy sponsor prescribed fire training exchanges (TREX) in various locations across the state. Managed as an incident, these TREX events are inclusive of the diversity in the private sector, provided individuals have completed S-130 and S-190 and have a current physical fitness or "pack test", thereby meeting NWCG standards to which both organizations conform. Typical TREX participants include students, landowners, agency and NGO staff, and researchers including career and non-career track fire practitioners. These events provide hands-on experiential learning opportunities that are often especially difficult for non-agency fire practitioners to obtain. In addition to TREX events, both organizations, and others, welcome people of diverse backgrounds to participate with collaborative burns on federal, state, and private lands.

It is also important to acknowledge that the use of fire as an agricultural or land management tool is taught among families and communities in some parts of the state; this experiential learning is often passed down among generations of New Mexicans.

Critical Issues that Limit Increased Implementation

The lack of a training or certification program or requirement in New Mexico is not itself a barrier to increased implementation of prescribed fire, yet it does strongly intersect with the availability of insurance for fire management activities. As discussed in the previous section, New Mexico is an uncertain liability state, meaning that a practitioners' responsibility for unintended consequences stemming from a burn managed by them is not clearly defined in statute. This lack of clarity makes obtaining insurance coverage for private practitioners such as individuals, NGOs, and contractors more difficult or impossible, as insurance companies are unable to accurately predict and value the risk they are assuming by providing coverage. Additionally, a lack of information and opportunities to gain experience is understood to be a barrier to private individuals, particularly landowners who are seeking this knowledge[9]. This desire for additional resources and opportunities could be addressed through a training and certification program.

In some states that have specifically defined a practitioner's liability in statute, particularly those that have a gross negligence standard where certified burners oversee the prescribed burn, it has typically followed that some certification is determined necessary in order to extend that liability standard to the private individual or entity. Oklahoma provides practitioners with negligence liability protection without a training requirement, while Texas and Colorado require certification to receive negligence or gross liability protection, respectively. In these and other states individuals complete a training curriculum and become certified by the state to show they are competent and therefore deserving of this liability standard. Insurance companies are also interested in understanding certification standards because they view an individual who is certified as less risky to cover due to a perception of increased individual competency and the extension of a clear standard of liability from the state.

The issues of liability, insurance coverage, and training/certification are closely linked. To increase prescribed fire use in New Mexico more private individuals, NGOs, and contractors must be able to use prescribed fire. Some private practitioners are interested in or required to obtain liability insurance that specifically covers prescribed fire and smoke. For example, this coverage is required when federal regulations are inserted into grants and agreements that use federal funds, and by the real or perceived need for such coverage by private landowners and others. The difficulty of obtaining insurance coverage for private practitioners is currently a barrier to increased prescribed fire use in New Mexico, and thus the issue of training and certification standards must also be examined.

Acquiring a burn boss qualification through the federal NWCG system requires a minimum of seven classes, each 40 hours in length, plus additional time to complete the required associated position taskbooks (standard forms that document experience and skill); this process takes an average of a dozen years to successfully achieve when fully supported by an agency with the funding and access to the necessary resources. Although a less significant issue than insurance and liability, the scarcity of training available to private individuals who wish to become educated and skilled practitioners is a limiting factor, as well. A motivated person can access the most basic suppression training (S-130 and S-190) through NGOs, volunteer fire departments, and Forestry Division programs; however, accessing skills training beyond this level is difficult as the advanced NWCG curriculum is directed toward agency personnel and is not inclusive of other practitioners. This lack of access is simply because NWCG was created for and is used by agencies; it was not created for private practitioners and no alternative curriculum is currently available to the practitioners in New Mexico. Inclusion of private practitioners in TREX and other cooperative burn efforts provides important hands-on experience but does not provide a complete training

[9] Personal experience of working group members who are active prescribed fire implementers on private lands in New Mexico and work with private landowners who wish to use prescribed fire as a land management tool.

path for private individuals as these events typically also conform to NWCG standards and do not offer the required coursework.

A new training requirement must function as a tool to reduce barriers to implementation, not create new requirements that do not specifically address the liability, insurance, and training access challenges discussed above. **A new training requirement could itself become a barrier if not thoughtfully designed, implemented, funded, and established specifically for the purpose of reducing other existing barriers to implementation.**

What Other States Are Doing

Many states have implemented programs to certify individuals as prescribed burn managers. Most of these are southeast and midwestern states; however, several western states, including California and Washington that have suffered multiple severe wildfires in recent years, are also developing programs.

Other states have programs that are:

- based on curriculum developed by and for the state, fuels, and local factors and sometimes also blend the basic NWCG courses (S-130, S-190, and sometimes S-290) into the curriculum[10];
- offered in a variety of ways, such as in-person or online, and vary in length from one to several days;
- inclusive of a field requirement, such as participation in a minimum number of prescribed burns or experience as a burn leader under the supervision of a certified individual; this sometimes includes completion of a position "taskbook" outlining specific competencies that must be demonstrated;
- available with a fee for certification and provide a unique identification number to each certified individual who is tracked in a state-managed database; and
- inclusive of a contractor requirement, such that certification is mandatory to legally conduct burns in the state or to extend a liability standard; the liability coverage is typically not provided to non-certified individuals.

States with active programs include South Carolina, North Carolina, Tennessee, Texas, Alabama, Colorado, Florida, Georgia, Illinois, Louisiana, Mississippi, Ohio, and Pennsylvania. California, Washington, and Minnesota are currently developing programs while some other states, such as Michigan and Oregon, have programs authorized in statute that are inactive or remain undeveloped at this time.

Certified practitioner programs are most often administered by a state agency, typically the agency responsible for natural resources, forestry, or fire management. Universities, NGOs, prescribed burn councils, or contractors sometimes assist by delivering courses and providing experiential training opportunities. For example, the Mississippi Forestry Commission in conjunction with Mississippi State University allows non-degree seeking students to enroll in a university course during the spring semester that fulfills the coursework requirement.

Since 2009 the Kansas Prescribed Fire Council has assisted in completing numerous introductory prescribed fire training sessions for ranchers and land managers. While this is not a state certification program, they have also

[10] The basic NWCG training includes S-130 Firefighter Training and S-190 Introduction to Wildland Fire Behavior. The next level up is S-290 Intermediate Wildland Fire Behavior. The full catalog of courses can be viewed at https://www.nwcg.gov/publications/training-courses.

developed an intermediate-level training session with a curriculum that includes in-depth planning procedures and smoke management. The Kansas Prescribed Fire Council expects to introduce an advanced training session in the next year or two that provides instruction in handling more complex burning situations.

Prescribed burn associations , a collaborative burn model common in the Great Plains, provide training opportunities for their landowner members and often have their own training standards that members must attain to participate in or lead burns sponsored by the association. PBA training standards may conform to state requirements where a certified burn manager type program exists or may provide the only standards required of members in states that do not have a certification program.

Considerations to Establish Prescribed Burn Training and Certification in New Mexico

A state-wide training program would likely improve the ability of private practitioners to access insurance products independent of which liability standard is adopted because a training standard provides some assurance to the insurance company of competence. Additionally, a training program designed for and available to private practitioners would improve the competency of private practitioners in the state, benefiting themselves and improving the safety and efficacy of the practice. This is especially true if practitioners are incentivized to participate by improved availability and affordability of insurance or a lower liability standard for certified practitioners. Adoption of a gross negligence standard only for those who become certified would strongly incentivize participation, as would reduction of civil liability for damages from twice costs to actual costs for certified practitioners. The working group agrees that participation should be voluntary to avoid a new training program becoming a barrier to implementation. A training requirement for private practitioners should not be imposed for its own sake, but as a tool to address barriers to implementation stemming from liability or insurance challenges. **A new training requirement could itself become a barrier if not thoughtfully designed, implemented, and established specifically for the purpose of reducing other existing barriers to implementation.**

The following four options for a state training standard for private practitioners on non-federal land (excluding state agencies that currently follow NWCG) were examined and the major differences between these options are outlined below:

1. <u>NWCG Full Curriculum</u>
    - Complies fully with NWCG standards for coursework and taskbooks
    - Known standard commonly, but not exclusively, used by agencies nationwide
    - No state-specific course required
    - Administrative burden is primarily in tracking the numerous courses and taskbooks that must be completed by an individual to become certified
    - High individual cost for coursework (approximately 280 hours of classroom training) and experiential learning opportunities required to complete a minimum of four taskbooks; limited opportunities for private individuals as these opportunities are often restricted to agency personnel

2. <u>NWCG Partial Curriculum</u>
    - Includes NWCG courses: S-130, S-190, and S-290
    - These courses are commonly offered in New Mexico or are available online; total approximately 80 hours of classroom training to complete

- Includes a state specific course developed specifically for this training program to cover topics such as, but not limited to, smoke management requirements, permitting, fuels, weather, contingency planning and leadership
- Includes experiential learning requirement that could include a "taskbook" developed specifically for the training program
- Administrative burden is development of state specific course and some qualification tracking; fewer qualifications must be tracked than in full NWCG system

3. NWCG Minimum Curriculum
   - Includes NWCG courses: S-130, S-190
   - These courses are commonly offered and are available online; approximately 40 hours of classroom training to complete
   - Includes a state specific course developed specifically for this training program to cover topics such as, but not limited to, smoke management requirements, permitting, fuels, weather, contingency planning and leadership
   - Includes experiential learning requirement that could include a taskbook developed specifically for the training program
   - Administrative burden is development of state specific course and some qualification tracking; fewer qualifications must be tracked than in full NWCG system

4. State-specific Curriculum
   - No NWCG courses required
   - Includes a state specific course developed specifically for this training program to cover topics such as, but not limited to, basic skills and tactics, smoke management requirements, permitting, fuels, fire behavior, weather, contingency planning and leadership
   - Includes experiential learning requirement that could include a taskbook developed specifically for the training program
   - Administrative burden is development of state specific course and some qualification tracking; fewer qualifications must be tracked than in full NWCG system

All options would include two levels of certification, one for pile burning only and one for pile and broadcast burning, and all options include experiential learning requirements and coursework. All options also require state legislation to clarify liability and to authorize and fund the responsible parties to take on program administration and curriculum delivery tasks.

Participation in the program would be voluntary with the incentive to participate being the reduction of civil damages from twice costs to actual costs and potentially the extension of a gross liability standard, if adopted (see A. Liability). The insurance market response in providing products and setting premiums would also provide an incentive for participation.

Tracking the qualifications and certification currency of private individuals would require a new authority and funding to support the activities. Tracking an individual's certification currency would allow for a requirement that someone who has not led a burn within a certain number of years and is therefore considered "not current" in their qualifications, would need to complete a recertification process. This ensures that practitioners receiving

statutory benefits for certification maintain their skills over time. The state specific training course could be developed and delivered by an agency, NGO, or higher-education institutions or some combination thereof.

Considerations for Curriculum Delivery and Program Administration

A variety of options for program administration and curriculum delivery were considered. In this section, the term "curriculum delivery" refers to both the teaching of courses and the logistical organization required to recruit students and organize the course while the tasks of "program administration" include tracking the courses offered, number of students enrolled, and their status as trainees, number of individuals certified by the program, and the issuance of certificates. Curriculum development and program administration could be assigned to one agency or entity or split between two entities. The term "private entity" includes both private for-profit consultants and NGOs, such as the New Mexico Prescribed Fire Council.

The options examined are summarized below:

1. Forestry Division handles program administration and curriculum delivery
2. Private entity handles program administration and curriculum delivery
3. Forestry Division handles program administration and New Mexico State University Extension handles curriculum delivery
4. Private entity handles program administration and New Mexico State University Extension handles curriculum delivery
5. Forestry Division handles program administration and private entity handles curriculum delivery

While examining these options four categories of criteria were considered. First the personnel and program costs, including website and social media development, travel, printing, and telecom expenses, were evaluated. Second, the long-term capacity and stability of the entity for administration and program delivery were considered. Third, the alignment of the entity's mission with the goal of expanded use of prescribed fire was considered. Finally, all the options included an estimate of costs to support collaborative curriculum development.

Recommendations for Training in New Mexico

An appropriately rigorous state-specific curriculum that is independent of NWCG courses (curriculum option four) is recommended to expand the use of prescribed fire on private lands. The curriculum would be tailored to New Mexico's specific land conditions, vegetation types, weather, and fire behavior and would cover topics such as, but not limited to, basic skills and tactics, smoke management requirements, permitting, fuels, fire behavior, weather, contingency planning and leadership. The curriculum would also engage private landowners and indigenous and traditional communities to recognize the state's unique social and cultural history, including centuries of fire use in agriculture and land management.

The recommendation is also to use a collaborative process involving subject matter experts from a diversity of government and private entities active in prescribed fire management in New Mexico to develop this appropriately rigorous curriculum and certification standard. The curriculum components would include the specific courses, the content of each course, content of taskbooks (if required), requirements for experiential learning, and the certification pathway.

The estimated costs for each curriculum delivery and program administration option are summarized in Table 3. Creating cost estimates for program development and long-term administration was challenging due to a lack of

detailed numbers from other states with certified practitioner programs. However, one newly published source, *Insights and Suggestions for Certified Prescribed Burn Manager Programs* (Matonis, 2020) was helpful, as was the expertise of HM 42 Working Group members in estimating the financial support required for each option.

The lowest cost options that best meet the criteria are Options 3 and 4. These are:

3. Forestry Division handles program administration and New Mexico State University Extension handles curriculum delivery, and
4. private entity handles program administration and New Mexico State University Extension handles curriculum delivery.

New Mexico State University (NMSU) Extension (Extension program) is recommended to lead curriculum delivery in both options, as this task fits well with that institution's mission and capacity. The Extension program currently has a fire specialist on staff who has experience working with private landowners on prescribed fire implementation and could hire additional experienced capacity if funding is available[11]. Additionally, the Extension program could engage a range of subject matter experts drawn from the fire management community in New Mexico to supplement staff expertise and capacity. The options differ in the entity providing program administration – Forestry Division or the New Mexico Prescribed Fire Council. The New Mexico Prescribed Fire Council is an established 501(c)(3) non-profit whose mission is expanded prescribed fire use in New Mexico, a mission that aligns well. However, the Prescribed Fire Council is currently 100% volunteer-based with no paid staff or office infrastructure. In contrast, while the Forestry Division would require funding support and staff to take on these new tasks, it already has the capacity to hire and manage employees and administer programs. The Forestry Division's mission also aligns well, as it has a recognized role and authority in wildland fire management in the state.

Additionally, a "Training and Oversight Board" consisting of one representative each from EMNRD, the Prescribed Fire Council, and NMSU Extension would be created to provide oversight of program curriculum, curriculum revisions, effectiveness, and delivery. Initial curriculum development, as stated above, would proceed through a collaborative process involving subject matter experts from a diversity of government and private entities; both initial development and future curriculum revisions would adhere to the "state-specific" pathway.

Questions relating to specific issues, such as alternate pathways for small versus large burns or private landowners versus contractors, burn complexity, cross-walks to NWCG qualifications, etc., are beyond the scope of the current analysis and are best resolved during curriculum development, a process which the working group agrees should include diverse subject matter experts drawn from across prescribed fire practice in the state.

C. PERMITTING

Current Status of Permitting in New Mexico

Prescribed fire permitting in New Mexico is divided among two types: smoke and ignitions. Smoke permitting is handled by the Air Quality Bureau of NMED to ensure compliance with the Clean Air Act. Ignitions permits are not currently required by state government and as a result some local governments have opted to develop permitting systems themselves. As such, whether a county has an applicable ordinance and issues a permit, what that permit

[11] New Mexico State University Extension, Animal Sciences and Natural Resources. https://aces.nmsu.edu/ces/animal/index.html

requires, and what type of burning the permit authorizes varies widely. Ignitions permits, where required, provide prescribed fire practitioners the permission to conduct a prescribed burn, except on federal and state managed lands not subject to local government jurisdiction. Local governments also usually require notifications to appropriate personnel, such as the county fire marshal, fire department, or dispatch office, of all burn activities in their jurisdiction, either as a requirement of or separate from an ignitions permit. Finally, both the state and local governments have authority to issue burn bans for their jurisdictions.

Permitting was highlighted as an area for investigation in HM 42 due to the variability of permits and permit requirements across the state. In some cases, ignition permits are challenging to acquire and pose a barrier to prescribed fire on non-federal lands; however, in other cases, ignition permit acquisition is straight forward and does not pose a barrier to fire use. Since HM 42 is looking at liability, training, permitting, and smoke holistically, it is important to understand permitting variability across the state and how this variability poses a challenge and potential barrier to prescribed fire implementation.

To understand the current status of prescribed fire ignitions permits in New Mexico, the Forestry Division conducted a survey of all counties and some municipalities and in some cases obtained examples of their permits. The survey also identified if an ordinance was in place and who is the current primary contact at the relevant department.

The surveys found that roughly one third of counties have an ordinance and some municipalities do as well. The survey found that most local governments that have an ordinance and permits regulate 'open burning', which in this context typically means small-scale back-yard debris burning and recreational fires; however, these ordinances are often interpreted to apply to prescribed burning for land management in the absence of other statutes. Often these ordinances include restrictions or requirements that are not practical or applicable to prescribed burning.

Of the pile burning permits:

- most require calling dispatch prior to ignitions;
- some require calling at the end of the burn;
- almost all require the burn to be conducted within certain hours after which it must be extinguished;
- some reference red flag designations vaguely;
- some reference red flag designations made by the National Weather Service;
- some reference atmospheric ventilation limits;
- many have variability in their terminology;
- some include smoke requirements that conflict with NMED smoke management rules;
- at least one jurisdiction has a hard cap on wind speed in miles per hour;
- many have variable minimum distances from a pile to structures, buildings, and fences; and
- some limit burning to specific days of the week, such as only allowing burning on Saturday and Sunday.

While most permits are written to focus on "open burning," including small-scale pile burning, a handful of jurisdictions mention broadcast burning for forest and rangeland benefit. Variability in permit language also extends to air quality elements and terminology within the permits. Some permit elements and terminology are inconsistent with state air quality terminology and requirements.

Current New Mexico Smoke Permitting Process (excerpted with modification from* New Mexico Smoke Management Program Guidance Document, 2005*)

Relationship between the Smoke Management Program and New Mexico Air Quality Rules

Open Burning Regulation

The Open Burning Regulation (20.2.60 NMAC) applies to those burns less than or equal to 10 acres per day or 1,000 cubic feet (cu ft) pile volume per day. These amounts are intended to capture most residential type burning, which is expected to have minimal impacts on air quality. The Open Burning Regulation incorporates conditions to minimize impacts from these small burns. NMED may revise the open burning requirements and thresholds if it is determined, through complaint tracking or other means, that they are not adequate to protect air quality.

The Open Burning Regulation is not a component of the Smoke Management Program (SMP) but is discussed here because a continuum between it and the SMP is needed to address all smoke sources in New Mexico. The requirements in the Open Burning Regulation for vegetative burning are incorporated into the SMP to complete the continuum. Revisions to the Open Burning Regulation were made in tandem with the development of the SMP and the Smoke Management Regulation in order to provide a consistent increase in requirements based on burn size and the resulting emissions. If a practitioner is unable or chooses not to meet the conditions in the Open Burning Regulation, the burn is subject to the SMP and the Smoke Management Regulation.

Smoke Management Regulation

The Smoke Management Regulation (SMR, 20.2.65 NMAC) provides the enforcement mechanism for the SMP. The Environmental Improvement Board approved the SMR as a part of New Mexico's State Implementation Plan prior to submittal by the governor to the U.S. Environmental Protection Agency for its approval. New Mexico's SMP applies to both wildland and agricultural lands regardless of ownership (i.e., federal, state, municipal, county, public, private), purpose of the fire (e.g., vegetative residue disposal, hazard reduction, maintain ecosystem health, etc.), or vegetation type (e.g., grass, forest, crops, orchard trimmings, etc.).

The SMR is a permit-by-rule for practitioners in New Mexico. Permit-by-rule means that the burden of compliance with the requirements specified in the SMR is with the practitioner. The difference between permit-by-rule and case-by-case permitting is that, rather than making application for a permit to the Air Quality Bureau (AQB), the practitioner is allowed to burn as long as the requirements contained in the SMR are met.

The SMR includes a burn registration process, a burn authorization process, and a process to track fire activity and collect emissions information. Permit-by-rule gives the AQB the authority to make site inspections, audit practitioners' files, or request information as proof that requirements in the rule are met.

The intent of using a permit-by-rule process is to provide one rule that covers all burning under the SMP that is equitable, clear, and predictable. The permit-by-rule process reduces the administrative paperwork burdens, while providing the necessary information and enforcement tools for the SMP.

Practitioners must comply with all city and county ordinances relating to smoke management and vegetation burning. Further, the SMP does not address fire safety. Fire safety falls under the jurisdiction of local fire authorities (fire departments, fire marshal, etc.). Burn authorization under the SMR does not provide protection

from liabilities related to fire safety or property damage due to uncontrolled fire. Specifically, compliance with the SMR does not relieve the practitioner of civil or criminal liability associated with an uncontrolled or escaped fire.

Critical Issues that Limit Increased Implementation

Inconsistent permit requirements may make acquiring and following local permits challenging, especially for prescribed burn projects that span jurisdictions. Implementing prescribed fire at the scale needed for New Mexico forests and rangelands to be healthy requires thinking larger, including planning broadcast burns of a size that may cross nearby jurisdictional lines and using a knowledgeable workforce that can effectively move across these lines while applying the consistent practice standards. Inconsistent permit requirements and highly varying restrictions make it more difficult to manage prescribed burns across jurisdictions. Furthermore, the varying requirements present increased opportunity for unintentional errors by practitioners working in multiple jurisdictions. Common errors include burning more piles than allowed, failing to make all required notifications, and burning on prohibited days of the week. The consequences of failure could include damaged relationships with issuing the entity, citations, penalties, or even jail time, depending on the authority and ordinance. Furthermore, that some local permits do not conform to NMED smoke management rules may be confusing and could catch practitioners between conflicting local and state authorities. Permits are often pencil-changed by practitioners in consultation with local authorities to make the permit conform to the specific operational needs of a pile or broadcast burn. Pencil-changing permits may open all parties, including landowners, individual practitioners, and county officials, to liability or scrutiny from the public, especially in the case of a loss of control incident. Additionally, most local governments provide little or no guidance for broadcast burning and it is often unclear when or if the term “open burning” applies to broadcast burning in their jurisdiction. It is unknown whether this uncertainty could expose a practitioner to additional liability.

Working group members have experienced these issues first-hand, have heard concerns and frustration expressed by other prescribed fire practitioners, and worked with private landowners who have expressed apprehension about the unclear, sometimes conflicting or inappropriate requirements in some permits, and particularly the practice of pencil-changing permit language[12]. It should be acknowledged that some local governments do have ordinances and permits that effectively address prescribed fire or have systems in place that are not a barrier to practitioners; however, these jurisdictions are in the minority or are imbedded in a patchwork system that varies across the state[13]. While it is clear that local governments are seeking to maintain and protect public health and safety while allowing for some types of burning, the variability, inconsistency, and inapplicable requirements in these ordinances and permits are a barrier to the use of prescribed burning, both pile and broadcast, for forest and rangeland benefit.

What Other States Are Doing

Other states’ handling of ignition permitting ranges widely. While most jurisdictions refer to the document as a “permit”, whether the document provides actual permission for a burn or simply functions as a registry varies. Some states have developed a standardized state-wide permit process covering specific types and sizes of pile or broadcast burning. State-wide ignition permits vary from regulating all types of burning (e.g. yard, construction,

[12] Personal experience of working group members who are active prescribed fire implementers on private lands in New Mexico and work with private landowners who wish to use prescribed fire as a land management tool.

[13] Personal experience of working group members and supported by the survey of local governments conducted by the working group as part of this review.

and forest or rangeland) to only regulating burns for land management purposes. Some states have statutes that guide permitting by local governments, rather than a state-wide permit. For example, the state sets sideboards for local governments in rules or a "right to burn" law, and those entities then issue ignition permits. In other states there is split jurisdiction between state, county, or fire departments depending on geography. For example, fire departments or local governments have permitting authority in more populated parts of a state while the state natural resource or forestry agency has permitting authority in more rural parts of the state. Finally, some states, like New Mexico, do not issue state permits while some local governments do so. States with split jurisdiction or no state-wide permit share the same barriers to expansion of prescribed fire as New Mexico.

Options to Address Permitting

The working group recommends two options for consideration by the legislature – a state-wide permit and providing criteria to local governments in new legislation. While these approaches are quite different, and the pros and cons of both are outlined below, adoption of either approach would improve consistency across the state and would have a supporting effect on prescribed fire implementation over the status quo. Any legislation addressing this issue should seek to establish and maintain consistency in definitions, requirements, and restrictions for ignition permit(s).

Statewide permitting is an option that would allow New Mexico local governments to retain authority to issue ordinances and permits for yard waste and other types of small-scale open burning in conjunction with a statewide permit required for pile and broadcast burning for land management above an identified size threshold. If negligence is adopted as the standard in New Mexico for all practitioners, the ignitions permit might be administered as a "permit-by-rule" process identical to the current state-wide smoke permit. This means that the burden of compliance with any requirements specified is with the practitioner. Permit-by-rule and case-by-case permitting differs in that rather than making application for a permit to the administering entity the practitioner can burn as long as any stated requirements are met (NMED 2005). The smoke permit process requires inputs for ownership, fuels, size of burn, and location and requires specific actions be taken within specified distances population centers. It also provides guidance to the practitioner for practices to be followed based on those criteria; it does not, however, require specific case-by-case prior approval based on those inputs (NMED 2005). This permit-by-rule process is recommended solely to reduce the administrative burden that case-by-case permit review would require of the administrating agency and is not related to either liability or certification status of the practitioner. If a two tiered approach to negligence is adopted it has been proposed that certified practitioners eligible for the gross negligence standard be required to submit burn plans for peer review by another state certified practitioner prior to issuance of an ignitions permit, providing an additional level of oversight in exchange for this hard to prove liability standard. All practitioners would still be required to properly notify local governments of their activities and comply with local or state-wide burn bans. The enabling statute would include "right to burn" language to clarify liability.

With this approach local governments would retain their authority to permit the types of open burning they primarily regulate at present, and their ability to establish burn bans or be notified of burn activity would be unchanged. Confusion regarding permit requirements would decline because the state permit would ensure consistency. Local governments would not have the administrative burden for permitting prescribed burns for land management purposes. Local government and their employees' concerns about liability (because they are deciding if and when to issue permits for complex burns) would be alleviated, whether or not those concerns are valid given the protection provided to local governments by the Tort Claims Act or governmental immunity. With minor additions to the current web-based smoke management permit portal, a combined statewide permit system for smoke and ignitions would allow for better tracking of prescribed burns (e.g. the number of burns,

who is conducting burns, acres, and specific fuel types), providing data which could be useful for budget setting, state fire needs assessments, setting and revising insurance premiums, and other fire management needs. Including agricultural burns, which are already required to register with the smoke management program, would provide additional useful data. The statewide permit would also help track the activities of individual certified practitioners (see B. Training) more efficiently than if the permit system were to remain county-by-county. This could be accomplished by requiring certified practitioners to register their burns through the permit system and enter their certification identification number in the online form (for private practitioners to which this applies) to maintain their certification currency. Finally, insurance providers are looking for consistency in all aspects of fire management and the price or market availability of insurance could drop with clearer permitting criteria.

The drawbacks to statewide permitting are that some local governments may view state management of permits negatively and may want to retain their current oversight of all types of burning. Statewide permitting would create a new administrative and cost burden to a state agency, such as NMED or the Forestry Division, charged with coordinating it with the existing smoke permitting program or creating and managing a separate system.

Criteria provided by the state for local governments is another way to promote consistency in ignition permitting. With this approach an enabling statute should include "right to burn" language, require local governments to issue permits, and provide criteria for local governments to follow when creating or modifying their permits for prescribed burning as defined in this document.

The advantage of this option is that having "right to burn" language and a requirement to act in statute would create the impetus needed for local governments to improve their ignition permitting requirements while the state would not take on the new administrative burden. This approach would eliminate the concern that some local governments may not want to accept state control over some burn permitting in their jurisdiction. The disadvantage of this approach is that ordinance and ignition permit reforms would occur jurisdiction by jurisdiction. This may be a slow process that places the burden for change on individual advocates. Any remaining inconsistencies between jurisdictions may still hamper implementation of cross-boundary prescribed burns. The administrative burden would also remain with local governments. Finally, practitioners would still need two permits issued by different levels of government, the state smoke permit and the local ignition permit, with continued potential for conflict between requirements unless a clear requirement to bring local permits into alignment with smoke rules is provided.

Additional Recommendations for Permitting

Given the very close alignment between the current smoke permit process and this proposal, if a state-wide permit system is adopted, we propose combining these processes for a cost and effort efficient "one-stop shop" permit managed through a single online portal. See Figures 1 and 2 for a representation of the minor additions to the current smoke management permit process that would be required to include the information desired for an ignitions permit. If this combined approach is determined to be not feasible, the permits could be administered separately at a centralized or district level through the Forestry Division. Any legislation should ask the NMED to consider combining efforts to promote efficiency for the state as well as the practitioner and recognize that to do so will require financial support to the department for the modifications proposed here as well as for system maintenance. While there are costs to create and institutionalize a new permit system, the long-term benefits of doing so are considered worth the investment.

If negligence is adopted as the standard in New Mexico for all practitioners, the ignitions permit might be administered as a "permit-by-rule" process identical to the current state-wide smoke permit. This means that the

burden of compliance with any requirements specified is with the practitioner. Permit-by-rule and case-by-case permitting differs in that rather than making application for a permit to the administering entity the practitioner can burn as long as any stated requirements are met (NMED 2005). See above section for a more detailed analysis of this concept.

If a two tiered approach to negligence is adopted it has been proposed that certified practitioners eligible for the gross negligence standard be required to submit burn plans for peer review by another state certified practitioner prior to issuance of an ignitions permit, providing an additional level of oversight in exchange for this hard to prove liability standard. This should be considered as a separate issue from how the ignitions permit is administered as this requirement could apply under a single state-wide permit as well as under a criteria to local governments approach.

“Right to burn” language in state statute would create the enabling conditions for both a statewide permit as well as a jurisdiction by jurisdiction approach. Establishing the use of prescribed fire as a beneficial and accepted practice would support the individual landowner and create the needed impetus to act if local governments were tasked with creating or revising ordinances and permits to empower landowner action.

D. INTERRELATED ISSUES AND CONSIDERATIONS

Implementation of the recommendations for liability, training, and permitting would have synergistic outcomes. Table 1 also describes the relationships between subject areas addressed by the working group and the recommendations provided, showing the impact of and dependency between subject areas.

- “Right to burn” legislation would establish that prescribed fire is beneficial and necessary for forest, rangeland, and watershed health and wildfire risk reduction and is therefore a benefit to the public. It would also protect landowners’ right to use prescribed fire into the future.
- Establishing a clear category of liability for prescribed burning is necessary to expand its use and provide New Mexicans with access to affordable prescribed burn insurance. Tracking of individual practitioners’ acres and production through a certification program would help establish evidence-based insurance rates over time.
- A training program is only required and appropriate if it provides the practitioner with a clear incentive to participate and opportunities to build skills and knowledge to improve their practice. Incentives to become certified include a reduction in civil liability from twice costs to actual costs, improved access to affordable insurance coverage, and the provision of a gross negligence standard for certified practitioners only, if adopted.
- Establishing and maintaining consistent ignition permit definitions, restrictions, and requirements will support prescribed fire implementation. Issuance of a unique identification number entered on the permit application would allow long-term tracking of acres and production, an important ancillary benefit for research and other needs.

E. RECOMMENDATION SUMMARY

In this report the working group has provided two options to address liability, an option for development and administration of an appropriately rigorous training and certification pathway, and two options to address ignitions permitting in the state. These recommendations are summarized below and grouped into suggestions for near-term and five-year goals. Ideally, all recommendations could be addressed in the near-term as these

recommendations function best in synergy[14]. However, we recognize the high degree of uncertainty in the state at the current time and the potential difficulty in realizing those recommendations that will require new expenditures. We believe that the recommendations suggested for the near-term could, by themselves, address the highest priority barriers to prescribed fire implementation in New Mexico in the next five years. That said, we strongly encourage consideration of all recommendations soon as the full suite of proposals best supports the increased pace and scale of implementation the state needs in the long-term. We further recommend that grant funding options to support development of a training program be explored as a near-term alternative to a budget appropriation.

Near-Term Recommendations:

- Adopt legislation with "right-to-burn" language establishing prescribed fire as a beneficial and accepted landowner right.
- Adopt a negligence liability standard for all private prescribed fire practitioners.
- Create enabling conditions in statute for development of a voluntary state-specific training and certification program if such development can be funded through grants or similar means.
- As an incentive for voluntary participation, reduce civil damage liability from double costs to actual costs for practitioners who complete the training program and become certified.
- If the permitting option of providing criteria to local governments is selected, establish requirements and criteria in legislation for local governments to follow when creating or revising prescribed fire ordinances and ignition permits.

5-Year Recommendations:

- Consider adopting a two-tiered liability standard based on status as a state certified prescribed fire practitioner. Non-certified practitioners would be subject to a negligence liability standard for all prescribed burning in New Mexico as defined in this document, while certified practitioners would be provided with a gross negligence liability standard.
- If not already completed, fund development of a state-specific training curriculum specific to New Mexico's local factors through a collaborative process involving a wide range of subject matter experts experienced with prescribed fire in the state.
- Permanently fund training curriculum delivery and program administration.
- If a state-wide permit option is selected, permanently fund development of a web-based portal for the permit, either separately or in conjunction with the existing smoke permit portal managed by NMED.

[14] See also Table 1.

TABLES

Table 1. Relationships between subject areas and recommendations addressed in the report, showing impact and dependency between subject areas of two possible standards for negligence.

	Current Barrier	**Negligence**	**Gross Negligence**
"Right-to-Burn" language	Prescribed fire practice not statutorily recognized as a landowner right is disincentive to act; potential to lose access to practice in future if not explicitly established.	Language establishing use of prescribed fire as a property right in NM is beneficial statement underpinning other recommendations.	Language establishing use of prescribed fire as a property right in NM is beneficial statement underpinning other recommendations.
Double Civil Damages	Double civil damage penalty is deterrent to implementation and could contribute to high insurance rates.	Recommend reduce to single damages for certified practitioners (incentive to participate in training program).	Recommend reduce to single damages for certified practitioners (incentive to participate in training program).
Insurance Availability and Rates	Uncertain liability status disincentivizes insurance industry resulting in lack of available products or high rates.	Possible increase in availability and affordability of coverage; most likely for certified practitioners.	Likely greater availability of insurance products and reduced rates; most likely for certified practitioners.
Training and Certification	Lack of access to training for private practitioners results in implementation knowledge gap. Insurance companies often require adherence to a recognized training standard to provide coverage.	Training and certification program recommended; voluntary participation incentivized by reduction in civil damage penalty. Increased access to insurance possible.	Training and certification program recommended; voluntary participation incentivized by gross negligence standard for certified practitioners **only** and by reduction in civil damage penalty – anticipated greater program participation than without gross negligence. Increased access to insurance possible.
State-wide Ignitions Permit	Inconsistencies across jurisdictions complicates planning and implementation; inconsistencies with current smoke rules.	Permit-by-rule process, no prior review of burn plans. Barriers addressed as outlined in text.	Peer review of burn plan required for certified practitioners covered by gross negligence. Barriers addressed as outlined in text.
Criteria to Local Governments for Permitting	Inconsistencies across jurisdictions complicates planning and implementation;	Legislation sets requirement and provides criteria to local governments to create or revise ordinances and	Legislation sets requirement and provides criteria to local governments to create or revise ordinances and

	inconsistencies with current smoke rules.	ignition permits. Barriers addressed as outlined in text.	ignition permits. Peer review of burn plan required for certified practitioners covered by gross negligence. Barriers addressed as outlined in text.

Table 2. Prescribed fire liability by state

Type	Description	States
Strict Liability	Strict liability is a standard of liability under which a person is legally responsible for harm even if there was no negligence found, regardless of standards of care taken.	DE, HI, MN, RI, WI
Negligence	Negligence is a standard of liability under which a person is legally responsible for harm if reasonable care was not taken. In New Mexico, a negligent act is one which a reasonably prudent person would foresee as involving an unreasonable risk of injury to him or herself or to another and which such a person, in the exercise of ordinary care, would not do. Unlike strict liability, a negligence standard permits the defense that the accident occurred although the defendants satisfied all the applicable standards of care. Negligence is a common standard but there are variations from state to state.	AL, AK, AR, CA, IL, KY, LA, MD, MS, NH, NJ, NY, NC, PA, OK, OR, SC (fire), TN, TX (burn boss only), VA (smoke only), WV
Gross Negligence	Gross negligence is a liability standard where reasonable care needs to have been taken, but holds a person legally responsible for harm only if it can be shown that there was a meaningful disregard for reasonable care (or an intentional failure to carry out a duty of care to others). Gross negligence is not currently defined in New Mexico case law or statutes.	CO, FL, GA, MI, SC (smoke), TX[15] (all other burn practitioners besides the burn boss), WA
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 negligence.	AZ, CT, ID, IN, IA, KS, ME, MA, MO, MT, NE, **NM**, ND, NV, OH, SD, UT, VT, WY
Content taken from Matonis 2020, Melvin 2018, Quinn-Davidson and Stackhouse 2020, Sun 2006, and Sun and Tolver 2012.		

[15] Negligence for burn boss (https://agrilifeextension.tamu.edu/library/agricultural-law/prescribed-burning-liability-and-insurance-considerations/) and gross negligence to other people conducting the burn (https://statutes.capitol.texas.gov/Docs/NR/htm/NR.153.htm).

Table 3. Training Curriculum Development and Program Administration Costs

	Description of Option	Program Administration	Curriculum Delivery	Curriculum Workshops	**Total Estimated Cost**
1	Forestry Division program administration and curriculum delivery	$104,008		$14,400	**$179,296**
2	Private entity program administration and curriculum delivery	$120,000		$14,400	**$159,400**
3	Forestry Division program administration and New Mexico State University Extension handles curriculum delivery	$41,643	$40,000	$14,400	**$116,043**
4	Private entity program administration and New Mexico State University Extension curriculum delivery	$40,000	$40,000	$14,400	**$114,400**
5	Forestry Division handles program administration and private entity handles curriculum delivery	$41,643	$100,000	$14,400	**$232,086**

Figures

Figure 1. Flowchart illustrating the current smoke permit system (NMED 2005).

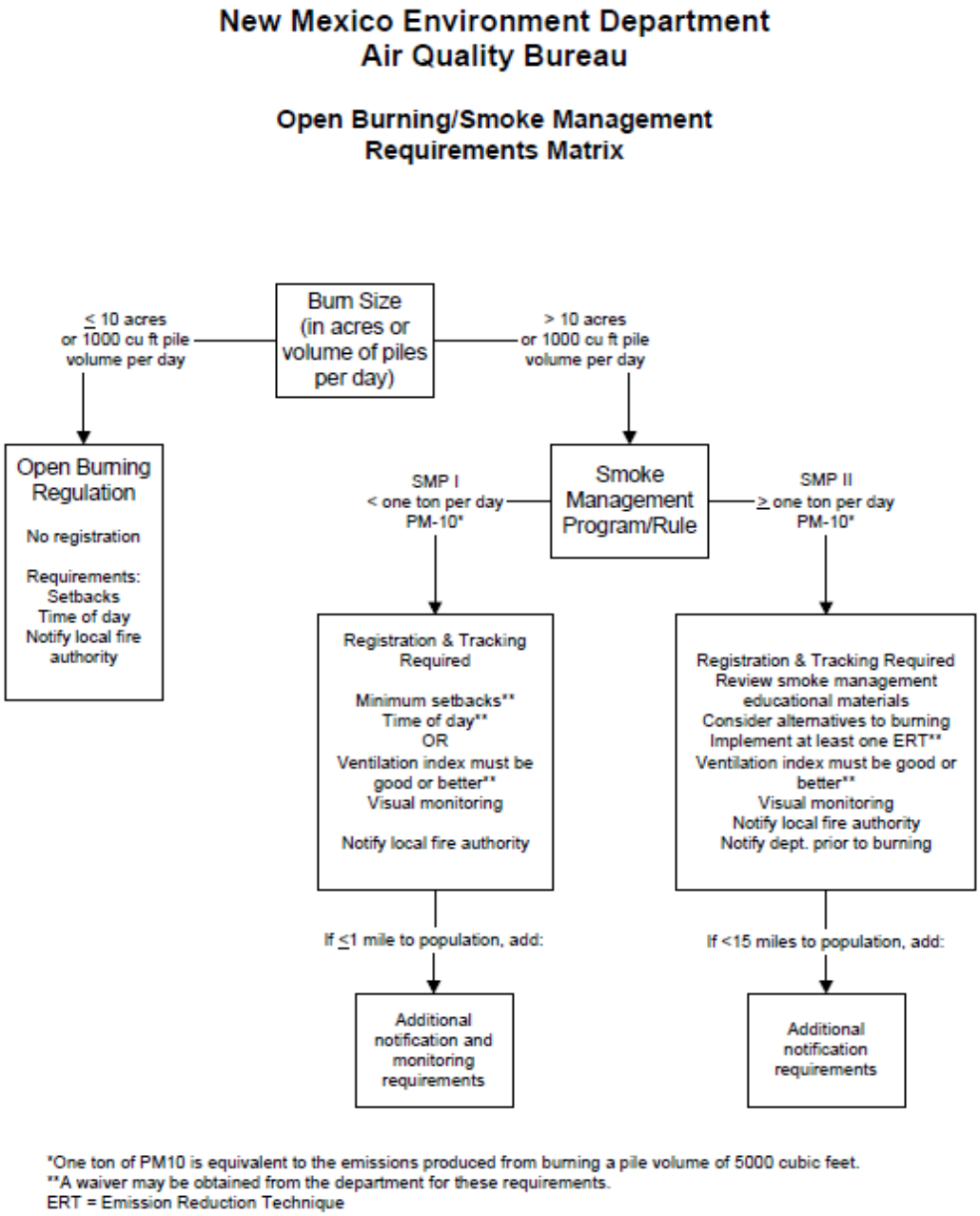
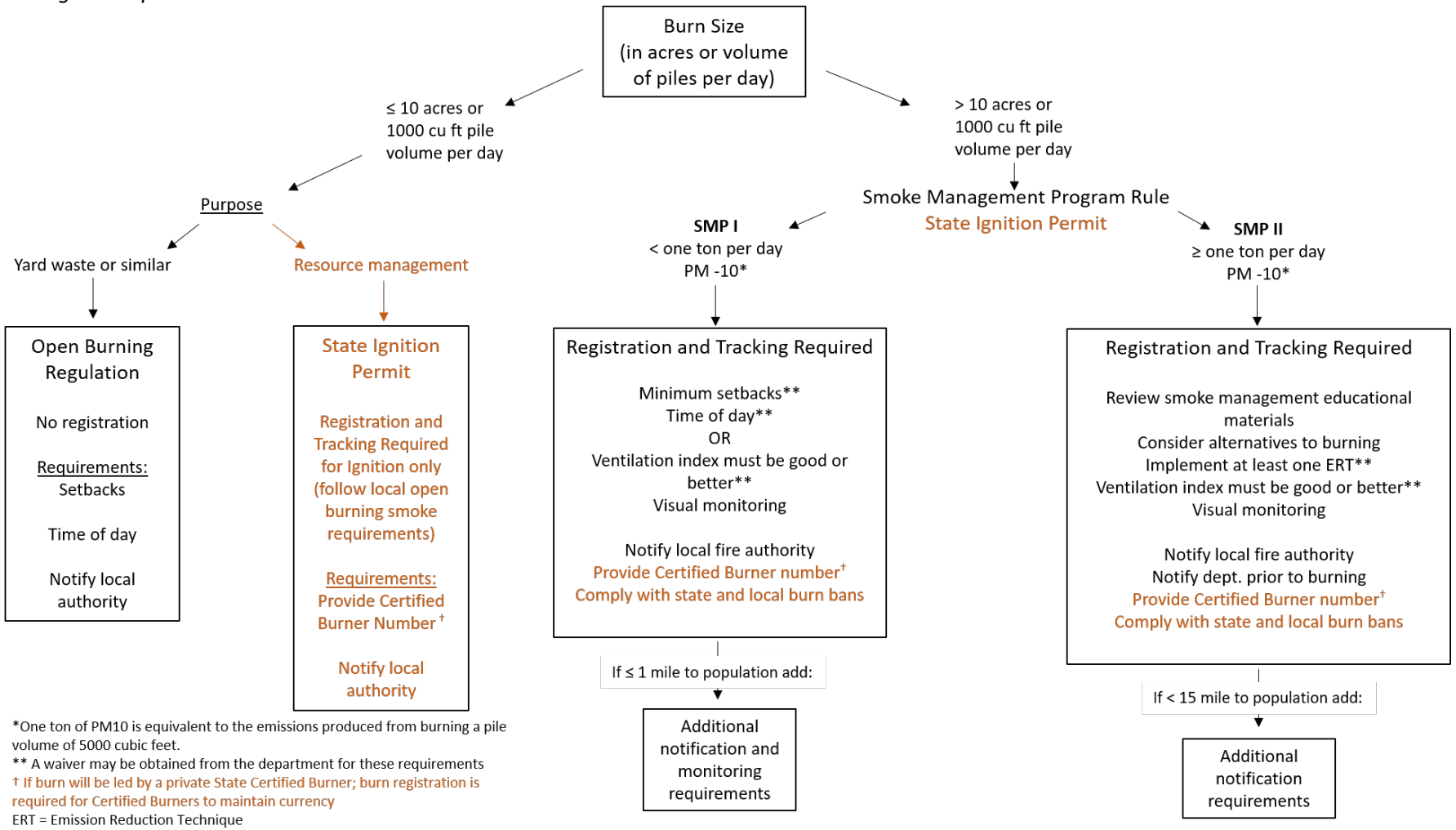


Figure 2. Flowchart illustrating the proposed additions to the state-wide smoke permit process to include additional data that would serve a state-wide ignitions permit.



*One ton of PM10 is equivalent to the emissions produced from burning a pile volume of 5000 cubic feet.
** A waiver may be obtained from the department for these requirements
† If burn will be led by a private State Certified Burner; burn registration is required for Certified Burners to maintain currency
ERT = Emission Reduction Technique

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HOUSE MEMORIAL 42

54TH LEGISLATURE - STATE OF NEW MEXICO - FIRST SESSION, 2019

INTRODUCED BY

Matthew McQueen

A MEMORIAL

REQUESTING THE ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT TO CREATE A WORKING GROUP TO DEVELOP AN ANALYSISTO EXPAND THE PRACTICE OF PRESCRIBED FIRE IN NEW MEXICO.

WHEREAS, fire is an environmental driver and an essential component in most New Mexico ecosystems; and

WHEREAS, prescribed fire is the use of fire applied under specific conditions with appropriate planning; and

WHEREAS, prescribed fire allows the fire to be confined to a specific area to accomplish planned land management objectives; and

WHEREAS, healthy and resilient lands managed with prescribed fire lower severe fire risk and help avoid loss of life, property and infrastructure and support water sources, wildlife habitat, ecotourism, jobs, economic development in

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[bracketed material] = delete

rural communities and hunting, fishing and outdoor recreation opportunities; and

WHEREAS, uncharacteristically large and severe wildfires are affecting large land jurisdictions and putting New Mexico's watersheds, forests and wildlife habitat at high risk; and

WHEREAS, wildfire knows no boundaries, and resilient federal, state and private watersheds and forests are essential for residents of New Mexico; and

WHEREAS, prescribed fire is known by land managers to be effective at reducing fire behavior, as well as being cost-effective; and

WHEREAS, many residents, scientists and stakeholders agree that the current level of prescribed fire use in New Mexico is insufficient to maintain or build upon restored landscapes; and

WHEREAS, New Mexico needs to increase the use of prescribed fire as a management tool to improve the health and resilience of ecosystems, watersheds and agricultural lands, to reduce the negative effects of high-severity wildfires; and

WHEREAS, inherent prescribed fire risks are mitigated through training, practice, cross-boundary collaborations and education; and

WHEREAS, knowledge and experience from diverse stakeholders are needed to recommend actions and policy changes that support the expanded use of prescribed fire statewide;

NOW, THEREFORE, BE IT RESOLVED BY THE HOUSE

underscored material = new
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REPRESENTATIVES OF THE STATE OF NEW MEXICO that the energy, minerals and natural resources department be requested to convene a working group to study the expansion of prescribed fire in New Mexico, including issues relating to training, certification, permitting, negligence, smoke impacts and liability, and perform a review of how other states have addressed these issues in state law while increasing the use of prescribed fire; and

BE IT FURTHER RESOLVED that the working group be composed of representatives of the following: the forestry division of the energy, minerals and natural resources department, the state fire marshal, the department of game and fish, the state land office, the department of environment, the New Mexico department of agriculture, the office of the state engineer, the office of superintendent of insurance, the New Mexico prescribed fire council, the New Mexico acequia association, agricultural and conservation groups, New Mexico state university and the New Mexico forest and watershed restoration institute; and

BE IT FURTHER RESOLVED that the working group be requested to report its findings and conclusions to the appropriate interim legislative committee by July 1, 2020; and

BE IT FURTHER RESOLVED that copies of this memorial be transmitted to the secretary of energy, minerals and natural resources, the state fire marshal, the director of the

underscored material = new
[bracketed material] = delete

department of game and fish, the commissioner of public lands, the secretary of environment, the director of the New Mexico department of agriculture, the state engineer, the superintendent of insurance, the chair of the New Mexico prescribed fire council, the executive director of the New Mexico acequia association, the president of New Mexico state university and the director of the New Mexico forest and watershed restoration institute.